ASSESSING LANGUAGE KNOWLEDGE IN JEJU: VOCABULARY AND VERBAL PATTERNS IN JEJUEO AND ENGLISH

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By Sejung Yang

Dissertation Committee:
William O'Grady, Chairperson
Kamil Ud Deen
Bradley McDonnell
Geoffrey LaFlair
Clark E. Llewellyn

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Abstract

This study examines knowledge of Jejueo and English across different age groups in Jeju Island. The data for this study were collected from two almost identical language test instruments — one for each language — and from a language survey. There was a total of 244 participants, ranging from 10 to 67 years old and divided into five groups (Elementary School, Middle School, High School, College, and Adult).

The overall findings of the study for Jejueo revealed apparent language decline in progress in the case of Jejueo. Children in Elementary School, already 10 years old on average, had very poor proficiency in the language, which I attribute to the vanishingly rare opportunities to hear and use Jejueo. Consistent with this idea, older groups did somewhat better, but only because they presumably had more exposure to the language.

The principal finding for English was the presence of a strong age effect (number of years of instruction) between Elementary and Middle school. The second smaller increase was observed between Middle school and High school, but proficiency in older groups leveled off.

I also made other striking observations including the following: i) Success on the English portion of the assessment is positively correlated with higher proficiency in Jejueo; ii) the amount of Jejueo input from family members were positively related to success on both the Jejueo test and the English test; iii) Middle School participants performed better on the English test than on the Jejueo test; iv) although the participants in the Adult group showed relatively high proficiency in Jejueo compared to non-adult groups, their Jejueo proficiency was far lower than the Korean proficiency of even the Elementary School group.; v) Success on verbal patterns in both Jejueo and English is positively correlated with performance on the vocabulary task in the respective language.

I conclude this study by advocating several pedagogical implications for learners, teachers, parents, and educators that might contribute to more effective Jejueo and English education.

Table of Contents

List of Figures

List of Tables

A LIST OF ABBREVIATIONS

ABIL	abilitive
AH	addressee honorific
AUX	auxiliary verb
CON	connective
CONT	continuative
LV	linking vowel
NEG	negative
NPST	non-past
PFV	perfective
PROSP	prospective
SE	sentence ender
TOP	topic
PRS	Present
PST	Past
PROG	Progressive
FUT	Future

Chapter 1 Introduction

In contrast to the rest of Korea, two second languages call for attention in the school system on Jeju Island—Jejueo and English. Jejueo (ISO 639-3 jje) is the traditional language of Jeju Island. It has been categorized as critically endangered by UNESCO, and its remaining fluent speakers are mostly over 70 years old (Moseley, 2010). Still, recent surveys suggest that the vast majority of the residents of Jeju Island want their language to be preserved and passed on to the next generation, given its importance to their sense of identity and to their culture (Gwangryeong Elementary School, 2014; Moon, Ko, and Yang 2015; Oh et al., 2012; Yang and Yang, 2013).

On the other hand, English has been the main focus of second language education on Jeju Island for many years, reflecting the Korean Ministry of Education's emphasis on globalization (The Ministry of Education, 2015). Moreover, the potential economic benefits of fluency in English have created a strong desire among many families to have their children become fluent in English.

In order to understand the extent to which these dual goals are being met, it is essential to obtain accurate assessments about the level of proficiency that different segments of the Jeju population have achieved in Jejueo and English. This is not an easy task, of course, since residents of Jeju Island have different types of access to the two languages. For Jejueo, there is no systematic instruction in the schools, but the language is still heard (to some extent) in homes, especially when grandparents are a part of the family. In contrast, English is taught in the schools, starting in Grade 3, but there are few opportunities to hear or use the language outside school. There are only a handful of native English speakers in Jeju, many of whom are English teachers. Most tourists on the island are Asian, from the mainland of Korea or Asia.

This situation raises important questions about how each language is faring in these very different sets of circumstances — naturalistic learning in the case of Jejueo and formal education in the case of English. In order to examine this question, it is necessary to find a way to assess proficiency in each language, thereby providing a foundation for an informed language policy on Jeju Island.

This dissertation seeks to make a first step in this direction by examining the current state of knowledge of Jejueo and English in school-age children, adolescents and adults.[1] In order to achieve this goal, I conducted tests designed to assess Jeju Islanders'[2] knowledge in selected areas of vocabulary and verbal morphology, with a focus on several basic contrasts that are critical for communication. My research questions and goals are discussed in further detail in the next chapter (sections 2.5, 2.6, and 2.7).

My dissertation is organized as follows. I begin in this chapter by providing background information about English and Jejueo, followed in Chapter 2 by a description of the current state of Jejueo and English education in Jeju. Chapter 3 outlines the assessment tool that was designed for my study, and Chapter 4 presents the norming studies and the viability test which support the validity of the assessment tool. Chapters 5 and 6 report on the developmental profiles of Jejueo and English, respectively, based on the results for the two languages. Chapter 7 discusses the implications of those results, with the help of a comparison with the results focusing of a Korean version of my test. It also considers the effect of additional factors that may have influenced the test results, including parents' language practices, test takers' language practices, and access to extra English tutoring.

[1] A terminological note is in order here. I use the term 'knowledge' in a relatively informal sense, which I define here as proficiency on a particular set of written elicited production tasks that I will describe in detail in Chapter 3.
[2] The term 'Jeju Islanders' is used in this study to refer to people who were raised on Jeju Island by at least one parent who had also been born and raised in Jeju.

The next two sections provide a brief linguistic introduction to English and Jejueo, the two languages on which this dissertation focuses.

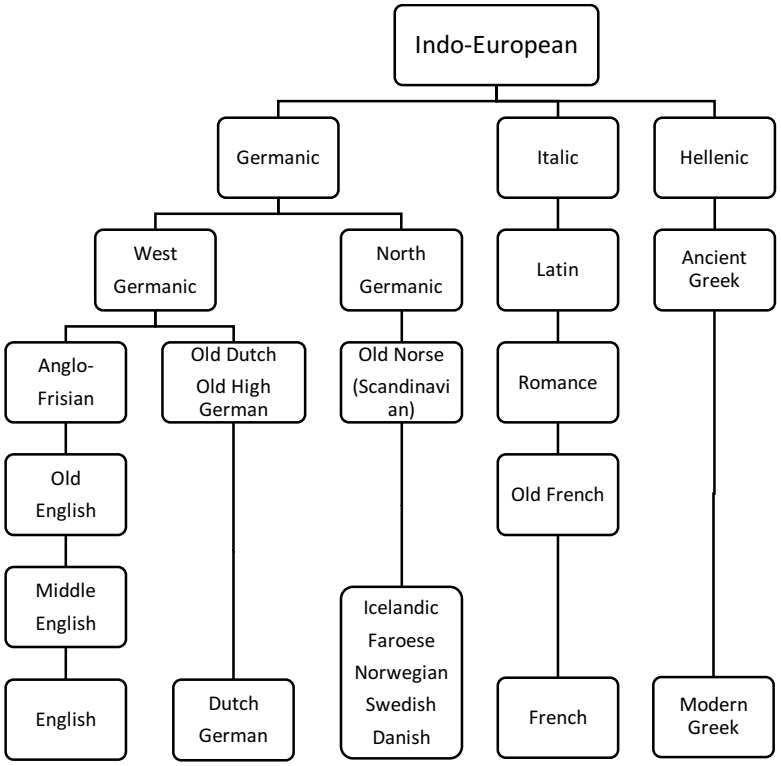
1.1 English as global language

Ethnologue report that the world's six billion-plus inhabitants speak a total of 7,097 languages (Simons and Fennig 2018).[3] Among those languages, English is the third most spoken, with over 300 million native speakers, surpassed only by Chinese (over 1 billion native speakers) and Spanish (over 400 million). Korean ranked 13th, with over 77 million speakers. Crystal (2003, p. 69) estimates that if L2 learners of English are included in speaker estimates, the number of English users increases to 1.5 billion, which underlies the frequently cited estimate that "1 in 4 of the world's population" uses English at various levels.

English is an Indo-European language belonging to the Germanic language branch (see Figure 1.1). Much of English vocabulary can be traced to a Germanic origin, but a large portion is Latinate thanks to the heavy influence of French that followed the Norman-French conquest of England in 1066. Based on an analysis of the 3rd edition of the *Shorter Oxford English Dictionary*, which contains 80,000 words, Finkenstaedt et al. (1973) report that 28.24% of English vocabulary is Latinate, 28.30% is either French or Old French, including Anglo-French, and 25% is Germanic, including Old English, Middle English, Old Norse, and Dutch (see Table 1.1, Table 1.2, and Table 1.3 for examples).

[3] In Africa: 2,143 languages; in Americas: 1,060 languages; in Asia: 2,300 languages; in Europe: 288 languages; in Pacific: 1,306 languages. (Simons and Fennig, 2018, https://www.ethnologue.com/statistics).

Figure 1.1. Indo-European Languages (Simplified)



(Derived from Campbell, 2013)

Table 1.1. Examples of English vocabulary of Germanic (Old English) origin

Modern English	Old English
bench	*benc*
beer	*beor*
black	*blæc*
cow	*cū*
door	*duru*
high	*heah*
meat	*mete*
mother	*modor*
now	*nu*
pig	*picga*
ship	*scipu*
sell	*sellan*
stone	*stan*
stare	*starian*
sister	*sweostor*
tell	*tellan*
world	*woruld*

(Klein, 1966)

Table 1.2. Examples of English vocabulary of French Origin

Modern English	French
gentle	*gentil* 'nice'
infant	*enfant* 'child'
intention	*entente* 'understanding'
liquor	*liqueur*
money	*monnaie* 'small change'
noun	*nom* 'name'
nurse	*nourrice* 'foster-mother'
occasion	*occasion* 'opportunity'
spirit	*espirit,* 'wit, intellect'
travel	*travailler,* 'to work'
tavern	*tavern* 'restaurant'
voyage	*voyager* 'to travel'

(McKnight 1923, pp. 136-137)

The following examples illustrate English words of Latinate origin.

Table 1.3. Examples of English vocabulary of Latinate origin

Latin word	Meaning	English Derivatives
aqua	'water'	*aquarium*
janua	'door'	*January*
locus	'place'	*location*
mira	'strange'	*miracle*
multa	'many'	*many*
populus	'people'	*population*
sola	'alone'	*solo*
sub	'under'	*subway*
tempus	'time'	*temporal*
trans	'across'	*transportation*
vocare	'to call'	*vocal, vocative*

(Klein, 1966)

Various signature features of English morphosyntax are especially relevant to later chapters. One of these features involves the fact that English expresses tense, aspect and modality contrasts through a combination of inflection and independent auxiliary verbs.

- Past Tense:
  (1) *Tom **played** the piano yesterday.*

- Present Progressive:
  (2) *Tom **is playing** the piano right now.*

- Past Progressive:
  (3) *Tom **was playing** the piano when I walked into the room.*

- Conjecture:
  (4) *Tom **will** play the piano tomorrow.*

Another important feature of English is that it allows variation in its canonical SVO word order to indicate basic sentence types such as the contrast between declarative sentences and interrogative sentences, which are formed with the help of inversion of the subject and an auxiliary verb.

- Declarative sentence
  (5) *Tom **is playing** the piano.*

- *Yes/No* Question (Inversion)
  (6) ***Is Tom** playing the piano?*

A further use of inversion, this time involving modals, involves the expression of deference in the use of requests.

- Deference
  (7a) ***Would you** play the piano?*
  (7b) ***Could I** play the piano?*

1.2 Jejueo: An Endangered Language

While English is flourishing both as a native language and as a lingua franca in the 21st century, Jejueo, in contrast, is fighting for its life. In 2010, Jejueo (JSO 639-3 jje), the traditional

language of Jeju Island, was categorized as critically endangered by UNESCO, which estimated that it had about 5000 to 10,000 fluent speakers—less than 2% of the population, which is estimated at 600,000. Matters are made even worse by the fact, noted at the outset, that most Jejueo speakers are over 70 years of age (Moseley, 2010).

The methodology that UNESCO developed to estimate language vitality makes use of a 5-point scale based on the 9 factors listed below (Minasyan and Shafe, 2011).

1) Intergenerational language transmission
2) Absolute number of speakers
3) Proportion of speakers within the total population
4) Shifts in domains of language use
5) Response to new domains and media
6) Availability of materials for language education and literacy
7) Governmental and institutional language attitudes and policies including official status and use
8) Community members' attitudes toward their own language
9) Amount and quality of documentation

UNESCO's 5-point scale is as follows (Brenzinger et al., 2003, pp.7-8):

Safe (5): The language is spoken by *all generations*. There is no sign of linguistic threat from any other language, and the intergenerational transmission of the language seems uninterrupted.

Unsafe (4): Most but not all children or families of a particular community speak the language as their first language, but it may be restricted to specific

social domains (such as at home where children interact with their parents and grandparents).

Definitively endangered (3): The language is no longer being learned as the mother tongue by children in the home. The youngest speakers are thus of the *parental generation*. At this stage, parents may still speak their language to their children, but the children do not typically respond in the language.

Severely endangered (2): The language is spoken only by *grandparents and older generations*; while the parent generation may still *understand* the language, they typically do not speak it to their children.

Critically endangered (1): The youngest speakers are in the *great-grandparental generation*, and the language is not used for everyday interactions. These older people often *remember* only part of the language but *do not use* it, since there may not be anyone to speak with.

Extinct (0): There is no one who can speak or remember the language.

In March 2010, a member of the UNESCO ad hoc expert group, Dr. Matthias Brenzinger, visited Jeju to investigate the vitality of Jejueo. He contacted Dr. Yeongbong Kang, who was at the time a professor in the Department of Korean Language and Literature at Jeju National University and also the Director of the Center for Korean Language and Culture. At Dr. Brenzinger' request and with the help of Dr. Changyong Yang, Professor in the Department of English Education at JNU, the Center provided the following information and documentation (Kim, 2011).

- Jejueo Dictionary (Hyun et al., 2009)
- A report on the vitality of Jejueo vocabulary (Kang et al., 2008)
- The Jejueo Conservation and Promotion Act (Jeju Special Self-Governing Province, 2007)
- Information about various Jejueo related institutions and organizations, such as the Center of Korean Language and Culture, the Association for Research on the Jeju Dialect, and the Jejueo *Bojeonhoe* (The Jejueo Conservation Society)
- Jejueo pedagogical materials
- Various linguistic studies on Jejueo

E-mail communication between the UNESCO and Jeju representative continued until August of 2010. Finally, after three months of discussion within UNESCO, it was announced that Jejueo was critically endangered. As noted above, this classification implies that the youngest speakers are in the great-grandparental generation, whose knowledge is often imperfect and who typically do not use the language for every-day situations.

1.3 Jejueo Linguistic Background

Jejueo vocabulary can be traced to two main sources – Koreanic and Chinese. Table 1.4 and Table 1.5 give examples of vocabulary items from each source.

Table 1.4. Jejueo vocabulary of Koreanic origin (traceable to Middle Korean)

Jejueo	Middle Korean	Modern Korean	Gloss
gawlegi 골에기	*gawlogi* 골오기	*ssangdungi* 쌍둥이	'twins'
bue 부에	*bue* 부에	*bua/wha* 부아/화	'anger'
bulhwi 불휘	*bulwhui* 불휘	*ppuli* 뿌리	'root'
gulme 굴메	*guleume* 구르메	*geulimja* 그림자	'shadow'
haoeyeom 하외염	*hawoiyeom* 하외염	*hapum* 하품	'yawning'
olle 올레	*olae* 오래	*None*	'narrow path from the street to house'
gweda 궤다	*gweda* 궤다	*salanghada* 사랑하다	'love/cherish'
gujda 궂다	*gujda* 궂다	*johji anhda* 좋지 않다	'not good'
menggeulda 멩글다	*mawinggawlda* 밍골다	*mandeulda* 만들다	'make'
sogda 속다	*seogda* 석다	*gosaenghada/sugohada* 고생하다/수고하다	'give oneself trouble'
seolleuda 설르다	*seolleuda* 설르다	*chiuda/geumanduda* 치우다/그만두다	'clean/stop'

(Seok, 1947; Hyun et al., 2009; Kang, 1994; Kang, 2007; Park, 1960; Oh et al., 2015) [4]

Table 1.5. Jejueo vocabulary of Chinese origin

Jejueo	Chinese	Modern Korean	Gloss
gwendang 권당	眷黨 권당 *gwondang*	*chincheog* 친척	'relative'
jisil/jiseul 지실/지슬	地實 지실 *jisil*	*gamja* 감자	'potato'
sigge 식게	式暇 식가 *sigga*	*jesa* 제사	'ritual service'
gugi 구기	九九 구구 *gugu*	*gyesan* 계산	'calculation'
namcho 남초	南草 남초 *namcho*	*dambae* 담배	'cigarette'
seongje 성제	兄弟 형제 *hyeongje*	*hyeongje* 형제	'sibling'
yongsi 용시	農事 농사 *nongsa*	*nongsa* 농사	'farming'
gweol 궐	闕 궐 *gweol*	*bulcham* 불참	'absence'
seodab/sawdab 서답/소답	洗踏 세답 *sedab*	*ppallae* 빨래	'laundry'
bing/beng/peng 빙/벵/펭	病 병 *byoeng*	*byeong* 병	'sickness'

(Seok, 1947; Hyun et al., 2009; Kang, 1994; Kang, 2007; Park, 1960; Oh et al., 2015)

At this time, it is impossible to estimate the relevant proportion of Jejueo vocabulary that comes from each source, but Sohn (1999) estimates that about 35% of Korean words are of Koreanic origin and 60% of Chinese origin.

[4] The Romanization system used in this study has been developed by the National Institute of the Korean Language, (http://www.korean.go.kr/front/page/pageView.do?page_id=P000150&mn_id=99)

Much smaller portions of Jejueo vocabulary have been identified as Mongolian and Japanese (See Table 1.7 and Table 1.8). The following vocabulary items (Table 1.6) are of uncertain origin, underlining the need for further study on the etymology of Jejueo vocabulary.

Table 1.6. Jejueo vocabulary of unknown origin

Jejueo	Modern Korean	Gloss
make 마께	*bangmangi* 방망이	'bat'
gawle 그레	*maesdol* 맷돌	'millstone'
bis 빗	*jeonbog* 전복	'abalone'
eongtag 엉탁	*yogism* 욕심	'greed'
jawal 자왈	*deombul* 덤불/ *sup* 숲	'bush'/ 'forest'
ganse 간세	*geeuleum* 게으름	'laziness'
hayeong 하영	*manhi* 많이	'much, many'
won 원	*jeonhyeo* 전혀	'not at all'
bonggeuda 봉그다	*jubda* 줍다	'pick'
pelabda 페랍다	*sanabda* 사납다	'rough tempered'/ 'unkind'

(Seok, 1947; Hyun et al., 2009; Kang, 1994; Kang, 2007; Park, 1960; Oh et al., 2015)

We turn now to morphosyntactic features of special relevance to my study, it is important to note that Jejueo differs from English in expressing tense, aspect and modality contrasts through inflection only.

- Past tense
  (8) *Dawgsegi meog-**eos**-jeo* 독세기 먹엇저.
  egg eat-PFV-SE
  '*x* ate an egg.'[5]

- Present Progressive
  (9) *Dawgsegi meog-**eoms**-jeo* 독세기 먹엄저.
  egg eat-CONT-SE
  '*x* is eating an egg.'

[5] Jejueo is a null-subject language. "*x*" represents an implicit subject, without regard for person or number.

- Past Progressive

(10) *Dawgsegi meog-**eoms-eon**-ge* 독세기 먹었언게.

egg eat-CONT-PFV-SE

'*x* is eating an egg.'

- Conjecture/Futurity

(11) *Dawgsegi meog-**euk-**yeo* 독세기 먹으켜.

egg eat-PROSP-SE

'I will eat the egg.'/ '*x* will eat the egg.'

Moreover, Jejueo also uses inflection to express the contrast between declarative sentences and interrogative sentences.

- Declarative Sentence

(12) *Dawgsegi-(i)-**ju*** 독세기주.

egg -(be) -SE

'(This) is an egg.'

- *Yes/No* Question

(13) *Dawgsegi-(i)-**ga**?* 독세기가?

egg -(be) -SE

'Is (this) an egg?'

In addition, Jejueo employs suffixation in the form of addressee honorifics to signal deference toward elders and other interlocutors of high social standing.

- With action verbs

(14) *Dawgsegi meog-eoms-**u**-da* 독세기 먹었우다.

egg eat-CONT-AH-SE

'*x* is eating an egg.'

- With descriptive verbs

(15) *Dawgsegi guj-**su**-da* 독세기 궂수다.

egg bad-AH-SE

'The egg is not good (in quality).'

Because Jejueo is largely unknown and because its very existence is officially denied in Korea, it is appropriate to provide some background about its status and history before proceeding.

1.4 Historical Background of Jeju Island and Jejueo

Jeju is a volcanic island located off the southern coast of Korean peninsula. It is divided into northern and southern regions by Mt. Halla (1,950 meters/6,388ft), which made it difficult for islanders to travel to either side in earlier centuries. This had the effect of creating northern and southern varieties of Jejueo.

Jeju Island was an independent kingdom called Tamra (pronounced "Tamna") from the 5th century until it was subjugated by the Goryeo Kingdom[6] and given the name Jeju in 1295 (Kim, 1987, p. 29) (Jeju literally means 'province across the sea' in Chinese. *Je* (濟) means 'to cross' and *ju* (州) means 'province.'). Various written sources, including *Samkuksaki* 'History of the Three Kingdoms' (Kim, 1145) and *Goryeosa* 'History of Goryeo' (Kim and Jeong, 1613), indicate that the Tamra Kingdom interacted with other regions, including Baekje and Silla on the Korean mainland, as well as with Japan and China (Jeju National Museum, 2001, pp. 96-97).[7]

A major historical event was the Mongolian invasion in 1231, which influenced the island's culture and language for more than 100 years (Kim, 2008, p.156). During this long

[6] Goryeo (918-1392) was established in 918. It unified three kingdoms including Baekje and Silla in 936 ruling the Korean Peninsula until Joseon was founded in 1392.

[7] Jeju Island was also called Tamra (5th century-1295), the name most often used to refer to the island since it first appeared in the 5th century in *Samkuksaki* 'History of the Three Kingdoms.' According to the Jeju National Museum (2001) *Samkuksaki* stated that Tamra paid tribute to Baekje, one of the Three Kingdoms, until Baekje fell. There is also a record of interaction with Japan between 661 and 688, with exports such as abalone and dried fish, and imports such as taxes, sickles, and knives (pp. 96-97). After Baekje's fall in 660, Tamra started to interact with Silla.

According to Kim (1987) *Samkukyusa*, states that Silla's Queen SunDuk (? - 647) built a pagoda to project the Queen's wish to protect her country from nine foreign countries, including Tamra, which was ranked fourth in terms of the degree of damage it did to Silla. In 1105, the name Tamra appeared in *Goryeosa* 'History of Goryeo,' which stated that Tamra paid tribute to Goryeo with 100 bags of tangerines, various vegetables, seafood and fruits (p. 29).

period of time, many Jeju women married Mongols and formed families (Kim, 2008, p. 156). The Mongols set up an administrative office called "Tamra Chongkwanbu" and controlled Jeju Island as a place for grazing horses. They were also aware of the strategic importance of the island's location between China and Japan.

The Mongols were eventually driven out (in 1374), but only at the cost of having 12,000 residents of the Korean mainland (Goryeo), including soldiers, move into Jeju Island to defend Korea from future invasion (Lee, 2005, p. 82).

Despite the century of Mongol occupation, linguists seem to agree that there remain only about 200 loan words of Mongolian origin in Jejueo, mostly involving vocabulary pertaining to horses and cows.

Table 1.7. Mongolian loanwords in Jejueo

Jejueo	Mongolian
nogdae 녹대 'bridle, halter'	*noɣta* 'bridle, halter'
galamawl 가라몰 'black horse'	*qaramorin* 'black horse'
gulamawl 구라몰'brownish horse'	*qulamorin* 'brownish horse'
dogom 도곰 'straw mat under a saddle'	*toqum* 'wool mat under a saddle'
geri 거리 'a counter for houses'	*ger* 'house'
cham 참 'a measurement for distance'	*ǰam* 'road'
bogdag 복닥 'cover, husk, hat'	*boɣtu* 'hat'
surug 수룩 'group, crowd'	*suruɣ* 'group, crowd'
ma 마 'here it is' (only be used to younger people)	*ma/mai* 'here it is' (can be used both to older and younger people)

(Seok, 1947; Lee, 1991; Kang, 1999; Kim, 1999; Bae, 2016; Kwon, 2017)

After the Mongols were driven out, there was a large influx of people into the island at the beginning of Joseon Dynasty (1392-1897). The Jeju population increased from approximately 19,000 in 1419 to 63,000 in 1435 (*Sejongsillokjiriji,* 1454, cited in Jang, 2008, p.181). The new settlers were a heterogeneous mix of political exiles, Buddhist monks, and

criminals from the mainland of Korea as well as Chinese refugees. Because of the rapid increase of population, Jeju Islanders suffered from famine, high taxes, disease and plunder by Japanese raiders. To avoid famine, a vast number moved to coastal areas on the Korean peninsula, including Jeollado, Chungcheongdo and Gyeongsangdo (Jo, 2005, p. 56). Some Jeju residents even relocated to Pyeongando and Whanghaedo in the northern part of the Korean Peninsula (*Sejongsillok*,1454, cited in Jang, 2008, p. 183). This emigration resulted in a significant decrease in the population of Jeju Island. As a counter-measure, the central government issued a ban on leaving Jeju Island in 1629 (*Injosillok*, 1653 cited in Jo, 2005, p.59). In addition, Islanders were prohibited to marry outsiders (Lee, 2002, p. 10). From that point on, Jeju Island was totally isolated from the Korean Peninsula for more than 200 years. As a result, it was able to maintain a unique culture and language that also reflected the influence of Mongolian, Chinese, Japanese and Korean.

In modern history, Jeju Island suffered from Japanese colonialism (1910 -1945). During that time, as many as 30,000 Jeju Islanders moved to Japan in 1933 (Lee, 2002, p. 9). The migration to Japan was not voluntary in fact. The main driver of the economy in Jeju at that time was the fishery, but it was under the control of the Japanese. Japan was going through a rapid industrialization at that time, creating a shortage of factory workers. Many Jeju Islanders had no choice but to accept jobs of this type in Japan in order to support their families. The frequent contact with Japanese resulted in an increase of Japanese loan words in Jeju. Shin (1984) reports that 970 Japanese loan words in various semantic categories still remain in Jejueo even after efforts at language purification.

Table 1.8. Japanese origin

Jejueo	Japanese	Modern Korean	Gloss
daebi 대비	*tabi* 足袋	*yangmal* 양말	'socks'
dandoli 단도리	*dandori* 段取り	*junbi* 준비	'preparation'
dansu 단수	*dansu* ダンス	*osjang* 옷장	'closet'
gasan 가산	*kasa* 傘	*usan* 우산	'umbrella'
juli 주리	*mikan* みかん	*geoseuleumdon* 거스름돈	'tangerine'
kuse 쿠세	*oturi* お釣り	*beoleus/jujeong* 버릇/주정	'change (money)'
mikkang 미깡	*kuse* 癖	*gyul* 귤	'habit/drunken rowdiness'

(Seok, 1947; Shin 1984)

After Korea's independence in 1945 following the defeat of Japan in World War II, Jeju Islanders faced further turmoil. Civic unrest culminated in the April 3 incident of 1948, which ultimately led to full blown military conflict that claimed the lives of at least 30,000 people, including women and children—10% of the population at the time. Indeed, it is reported that people were killed simply for using Jejueo (Kang, the poet, as cited in Jang, 2017). The report by the National Committee for Investigation of the Truth about the Jeju April 3 Incident, released in 2014, offers a detailed account of the circumstances leading up to the April 3 incident and of the carnage of the following months.

After the Korean War (1950), Jeju Island experienced strong economic growth through the 1960s, the 1970s, and became the most popular holiday destination in Korea. However, there was discrimination against those who spoke Jejueo on the grounds that they must be communists, and use of Jejueo in the school system was strongly suppressed, even to the point of physically punishing children for using the language.[8] In addition, teachers were corrected and admonished by supervisors for using Jejueo in the classroom.

[8] Deokwhan Kang (born in 1961 cited in Jang, 2017) testified that he was slapped on the face by his teacher after talking to him in Jejueo.

1.5 The intelligibility of Jejueo to monolingual Korean speakers

For centuries, Jejueo had been portrayed by scholars who visited Jeju Island as difficult to understand. Jeong Kim (1552) reported in his book (*Jeju Pungtolok* 'The Topography of Jeju') that the local speech was difficult to understand but that he was able to "learn [it] like a child learning a barbarian language." A hundred years later, Sangheon Kim (1669) wrote in his travel log, *Namsalok*, that "The language of this island (Jeju Island) is similar to that of Chinese. Especially words for driving cattle or horses are undistinguishable." Still later, Hyeongsang Lee (1704) reported that he had needed someone to interpret Jejueo for him during his stay on the island.

The unintelligibility of Jejueo was turned into an advantage on at least one occasion during the Korean war (1950-1953). A group of retired marines (Yeongchang Park, Yeongtaek Kang, Yeongi, Ko, and Jeongsik Gong as cited in "Secret Operation", 2017) testified that Jejueo was used to communicate between members of the Korean Marine Corps after some of their radios fell into the hands of North Korean forces ("Secret Operation", 2017). Because Jejueo was as unintelligible to North Koreans as to South Koreans, it served as an uncrackable code. The battalion commander, Jeongsik Gong, who initially suggested the use of Jejueo noted that that idea had come from the American strategy of using Navajo for classified communication during World War II.

Even today, almost 500 years after Jeong Kim's observations, Jejeuo remains incomprehensible to monolingual Korean speakers. In Jeon's (2011, p. 99) survey of Koreans' perception of Jejueo, participants frequently mentioned their difficulty in understanding the language, describing it as "foreign," "a different language," and "difficult to understand," often insisting that "it doesn't sound like Korean."

Many comprehensibility studies (Jeon, 2013; Kim, Chae, Yu, Jeon, and Ko, 2015; Long and Yim, 2002) have been limited to opinion surveys until Yang et al. (2017) administered a Jejueo intelligibility test to listeners who had no previous knowledge of the language. A total of 56 participants, from the three mainland cities, listened to a narrative in Jejeuo and were then asked to answer a series of simple questions about its content. Their average success rate was less than 10%, compared to approximately 90% for a control group consisting of older Jeju residents.

1.6 Today's heritage speakers of Jejueo

Jejueo speakers today are all bilingual to varying degrees and their dominant language is Korean, except for some elderly people.[9] Many native Jeju islanders are in fact heritage speakers of Jejueo. Benmamoun, Montrul, and Polinsky (2010) define heritage speakers as (partial) bilinguals who experience the interruption of language development or incomplete acquisition in one of the languages to which they are exposed in early childhood--usually the language that they hear only at home. As a result, they have a limited vocabulary and major deficits in grammatical competence, especially in the area of inflection.

The majority of native Jeju Islanders who are younger than 50 are not fluent in Jejueo, due to partial or incomplete acquisition of the language. Although they sometimes say that they speak Jejueo, they are in fact using a mixed language consisting mostly of Korean words and

[9] As of 2015, about 3,000 children and adolescents (ranging in age from 1 to 18) in Jeju come from families in which the mother is from Southeast or South Asia (Kim, 2016, pp.67-68). The local Jeju government and the National Institute of the Korean Language are providing Korean language programs for those families. However, Kim (2013) argues that many of the textbooks and materials are designed to teach standard Korean, which is often irrelevant to the social and linguistic situation in Jeju. Kim therefore suggested that it is necessary to develop pedagogical materials that are designed to teach Jejueo so that they can help the immigrant brides better communicate with their parents-in-law.

patterns, with just a few Jejueo items. In the example below, for instance, Jejueo *nang* 'tree' and *singgeu-* 'to plant' are replaced by Korean *namu* and *sim-,* respectively. In addition, younger speakers tend to prefer shorter forms, using the perfective marker *–eon* (-언) rather than *-eos* (-엇) because it does not require a sentence ender.

- Perfective

Younger speaker's speech
(16a) *Namu sim-**eon***. 나무 심언.
tree plant-PFV.SE
'(I) planted a tree'
(Jung, personal communication, August, 2018: 20 years old)

Fluent speaker's speech
(16b) *Nang singg-**eos-jeo*** 낭 싱것저.
tree plant-PFV-SE
'(I) planted a tree'
(Byun, personal communication, June, 2017: 67 years old)

Another example involves the distinctive Jejueo continuative marker *–eoms* (-엄), which is mostly replaced in the speech of younger Jeju Islanders by the Korean pattern *-go iss-* (-고 있-) *or* by the multi-purpose Jejueo suffix *–eumen* (-으멘), which simultaneously functions as a continuative marker and as a sentence ender.

- Present Continuative

Younger speaker's speech

(17a) *Namu sim-**go** **i-n.*** 나무 심고 인.
tree plant-CON be-PFV.SE?
'(I) am planting a tree'
(Jung, personal communication, August, 2018: 20 years old)

(17b) *Namu sim-**eumen**.* 나무 심으멘
tree plant-CONT.SE
'(I) am planting a tree'
(Jung, personal communication, August, 2018: 20 years old)

Fluent speaker's speech

(17c) *Nang singg-**eoms**-jeo.* 낭 싱겂저.
tree plant-CONT-SE
'(I) am planting a tree.'
(Byun, personal communication, June, 2017: 67 years old)

Conjecture is usually expressed with the prospective marker *-euk* (18d-18g), or with addition of the future marker *-eul* (-을) as in (18g). However, it is also expressed in a non-standard way in the speech of younger speakers, who favor the sentence ender *-gen* (18a-18b) [10], which is of uncertain origin but is not used by older and more fluent speakers. In addition, younger speakers end their sentences with the future marker as in 18c) whereas, the fluent speakers add an extra sentence ender *-a* as in (18g).

[10] *-gen* can be used in a declarative sentence when used with the verb *al-* 'to know/understand'.
Al-gen. 알겐
know-SE
'Okay'
In addition, when the intonation rises at the end of the sentence, it becomes an interrogative. This *-gen* ending is not found in fluent adult speakers' speech.

- Prospective

Younger speaker's speech

(18a) *Nog-**gen***. 녹겐
melt-SE
'It (looks like) will melt'
(Jung, personal communication, August, 2018: 20 years old)

(18b) *Namu sim-eo-ji-**gen***. 나무 심어지겐.
tree plant-LV-ABL-SE
'I can plant the tree/ I will be able to plant the tree'
(Jung, personal communication, August, 2018: 20 years old)

(18c) *Namu sim-**euk-eul***. 나무 심으클.
tree plant-PROSP-FUT/SE
'(I) will plant a tree'
(Jung, personal communication, August, 2018: 20 years old)

Fluent speaker's speech

(18d) *Nog-**euk**-yeo.* 녹으켜.
melt-PROSP-SE
'It (looks like) will melt'
(Byun, personal communication, June, 2017: 67 years old)

(18e) *Nang singg-eo-ji-**k**-yeo.* 낭 싱거지켜.
tree plant-LV-ABL-PROSP-SE
'(I) can plant a tree/ I will be able to plant a tree.'
(Byun, personal communication, June, 2017: 67 years old)

(18f) *Nang singg-**euk**-yeo.* 낭 싱그켜.
tree plant-PROSP-SE
'(I) will plant a tree'
(Byun, personal communication, June, 2017: 67 years old)

(18g) *Nang singg-**euk-eul**-a.* 낭 싱그클아.
tree plant-PROSP-FUT-SE
'(I) will plant a tree'
(Byun, personal communication, June, 2017: 67 years old)

Elderly speakers often refrain from speaking Jejueo when communicating with strangers, keeping Jejueo within close social boundaries. This may well be a reaction to decades of being characterized as communists, uneducated, unsophisticated, and countrified because of their language. I have been asked many times by elderly speakers *"*Why are you studying Jejueo? It is just a *saturi* [dialect] spoken by people from the country side who are not educated." Some elderly people have refused to speak to me in Jejueo, saying that "I don't know anything about Jejueo, I am not educated." Furthermore, being a Jeju Islander myself was sometimes a disadvantage. I was told that "if you are from Jeju Island, your parents should speak to you in Jejueo; you should go and talk to them, not us." However, these harsh words were from a small number of people. People's attitudes toward Jejueo have been changing in a positive way in response to recognition of the language's importance by the Jeju local government and concerns about its decline.

Interestingly, the vitality of Jejueo as measured by UNESCO has been challenged by Eun-Hee Kim (2015), who reassessed UNESCO's 9 factors and the 5-point scale as they apply to the language. In her study, she concluded that Jejueo is safer than claimed in UNESCO's initial 2010 investigation. Whereas UNESCO had announced that only about 2% of the total population could speak the language fluently, Kim (p.304) reported that a majority of the Jeju population speaks Jejueo, supporting a classification of "definitely endangered" — two levels better than UNESCO's classification of "critically endangered."

Crucially, however, Kim's evidence was drawn entirely from a survey in which 48% of teenagers, 56% of 20 year olds, 74% of 30 year olds, 80% of 40 year olds and 89% of 50 year olds responded that they speak Jejueo well (an average of 69% of all respondents). Kim also

included results from a street survey of high school students, reporting that 83% of Jeju locals often use Jejueo in their everyday lives.

Although self-assessments of language ability are easy to elicit, they have been shown to be far from reliable. Based on a study of 65 speakers at different fluency levels, Yang et al. (2017) report that fluent speakers tend to assess themselves lower than their actual ability whereas less fluent speakers assess themselves higher than their actual language ability.

The conclusion was based on a comparison of the results of self-assessments conducted before and after the participants were tested on the comprehension of 10 Jejueo sentences. The older and more fluent speakers' assessment increased after the test, whereas the younger and less fluent speakers' assessment decreased--reflecting the ability or inability of each group to understand the narrative on which the comprehension test was based.

Along similar lines, Sato (2016) reports that younger people on New Britain Island, Papua New Guinea (PNG) vastly overestimate their ability in their traditional language (Bebeli) despite their very poor performance on comprehension and production tasks and their parents' insistence that they are not competent in the language.

Because self-assessment is so unreliable and even misleading, language planning and other attempts at language revitalization can yield poor results or even failure. One purpose of this dissertation is to provide empirically grounded assessments of proficiency in the two "second" languages of Jeju -- English and Jejueo.

Chapter 2 Language Policy, Education, and Assessment

This chapter considers language policy and language education in Jeju, including matters relating to curriculum and methods of assessment that have been implemented to date. In addition, I outline my research questions, my principal hypothesis and the potential merits of my study.

2.1 Language policy and revitalization efforts on Jeju Island, Korea

Korean has been the de facto language of school instruction and public discourse in Korea since the 1950s. The use of Jejueo in the public domain and particularly in the school system has been discouraged for the past several decades.

Although Jejueo has undergone a precipitous decline in the last 50 years, recent revitalization efforts have been expanding quite rapidly, in part as the result of government action. The Jeju local government passed the Jejueo Conservation and Promotion Act (JCPA) in 2007, and amended it in 2011. In 2008, a private grassroots organization, the Jejueo *Bojeonhoe* (The Jejueo Conservation Society), was formed by a group of linguists and local people who were concerned about the future of their language.

The name "Jejueo," which literally means Jeju language,[11] was used officially for the very first time in the 2007 JCPA. (Prior to that, the language went by a variety of other names, including *Jejumal* 'Jeju speech' and *Jeju satuli* or *Jejudo bangeon* 'Jeju dialect.') In accordance with the JCPA, the Institute of Korean Language and Culture (an affiliate of the National Institute of the Korean Language) and the Jeju local government established the First General Plan for Jejueo Development, which was designed to cover the five years from 2008 to 2012.

[11] *Je* (濟) means 'to cross', *ju* (州) means 'province', and *eo* (語) means 'language' in Chinese.

The Second General Plan was implemented between 2012 and 2017, and as of 2018, the Third General Plan for Jejueo Development is being put into place under the supervision of the Jeju Research Center, a provincial government agency.

The Second General Plan identified the following six causes for the endangerment of Jejeuo (Oh, Moon, and Kim, 2012, pp.67-70).

- No intergenerational transmission (a lack of interactions with grandparents)
- A lack of pride in using Jejueo
- A lack of Jejueo education
- Public indifference in Jeju
- Encroachment on Jejueo domains by Korean
- Low intelligibility of Jejueo to non Jejueo speakers [12]
- Use of 'impure' language as the result of internet communication[13]

Unfortunately, this list failed to mention the historical events that led to the loss of many fluent Jejueo speakers, such as the 4.3 massacre (see Section 1.4) and the suppression of the use of Jejueo in public school (see Section 1.5).

Based on the assessment of the First General Plan, the main objectives of the Second General Plan (and its budget[14]) were as follows (Oh, Moon, and Kim, 2012, pp.99-100):

[12] Jejueo speakers often refrain from using their language because non Jejueo speakers from the mainland of Korea do not understand it. As mentioned in Section 1.5, the intelligibility rate for Jejueo by monolingual Korean speakers is less than 10%. Jeju Island's economy has been led by tourism and successful communication is essential for tourism-oriented businesses (restaurants, hotels, souvenir stores, car rental companies etc.).

Moreover, writers tend to give up on using Jejueo for their creative work because of its low intelligibility, which can reduce the readership of their work (Oh, Moon, and Kim, 2012, p.70). In 2014, I asked one of my friends who was working for a publishing company in Seoul for an estimate for publishing a book about Jejueo. She responded, "Who would want to buy a book about Jejueo. You are wasting your time".

[13] Oh et al. (2012) argues that Jeju teenagers' language, which incorporates a mixture of Korean, Jejueo, and Internet slang, is also responsible for the further/continuous decline of Jejueo (p.70).

[14] Reliable information on how much an endangered language community spends on their revitalization efforts is often unavailable, not only to researchers but also to community members. Every community has a different financial capacity to support its language revitalization program, but it is allocations be made to people and organizations that can make the best use of available funds. In addition, tax payers have right to be informed of the results of various revitalization efforts in which tax dollars have been invested.

- Creating a foundation for improving Jejueo ability (1,040,000,000 won, approx. $928,000)
- Expanding Jejueo education opportunities (2,105,000,000 won, approx. $1,879,000)
- Building Jejueo infrastructure (1,180,000,000 won, approx. $1,053,000)

It is thus clear that the local government is aware of the main reasons for language decline and that it is determined to improve the population's ability to use Jejueo through education.

2.2 Jejueo Education and Assessment

The Jeju Ministry of Education has taken a part in revitalization efforts by establishing "The General Plan for Jejueo Education" (GPJE). The goal of the GPJE is to conserve Jejueo by integrating Jejueo education into public schools as a part of regular school subjects and activities. However, as of 2018, there has been no report of any public-school teaching Jejueo as a stand-alone subject in the regular curriculum, although it taught as an extracurricular activity on a limited basis.[15] The Jeju Ministry of Education designated two schools to experiment with the teaching of Jejueo for a short period of time—Udo Middle School from March 2012 to February 2014 (School 1)[16], and Gwangryeong Elementary School from March 2104 to February 2016 (School 2)[17]. The two institutions taught Jejueo as part of their school programs and reported

[15] According to Oh and Kang (2014), the Ministry of Education encouraged schools to dedicate one day per week to use Jejueo, to hold a Jejueo festival, to name various things in Jejueo, to sing Jejueo songs, to participate in Jejueo speech competitions, and to designate a wall to post Jejueo expressions and proverbs (p.6).

[16] Udo Middle School (2013) reported that Jejueo was incorporated into their regular curriculum. In classroom, they used a workbook called *Gawleumeong Deuleumeong'* (Speaking and Listening in Jejueo), with various activities such as translation (Korean to Jejueo, Jejueo to Korean), reading, and writing. In addition, a Jejueo Day was designated every two weeks; Jejueo speech contest was held; symbols for Jejueo and short cartoon strips in Jejueo were created; and a Jejueo essay competition was held. During the summer, a Jejueo camp (two days, one night) was held; Jejueo words/expressions were printed on shirts; a Jejueo promotion booth was set up at a local community festival; and a play was presented in Jejueo at a local festival.

[17] Gwangryeong Elementary School (2015) reported that they used a textbook which was designed for their own curriculum. During the Jejueo education period they designated a wall in the classroom to post various Jejueo-related work. Jejueo-related books were purchased; a homepage for Jejueo information was set up; guest speakers were invited to make presentations; a Jejueo festival was held; and children were taught about Jeju myths, culture and customs, environment, society and life styles. In addition, Jejueo conversations and songs were presented;

positive outcomes in terms of improving the attitudes of students, teachers, and parents as well as their ability to speak Jejueo. However, although these schools have pioneered Jejueo programs, the assessment tools that have been used to assess students' ability in Jejueo are of questionable value.

School 1. According to the report by Udo Middle School (2013, p.47), 55% of their students increased their vocabulary ability after their first year of Jejueo instruction. The vocabulary test consisted of a bi-directional translation task. The children were presented with 25 Jejueo words and asked to translate them into Korean. Conversely, 25 Korean words were presented for translation into Jejueo. The test results indicate a positive outcome for Jejueo education and were interpreted as supporting expansion of such programs in the future.

(a)

Instruction: Translate the following Jejueo words into Korean.
gawlgaebi: _____ (answer: *gaeguli* 'frog')

(b)

Instruction: Translate the following Korean words into Jejueo.
mu: _____ (answer: *nawmppi* 'radish')

While the increase in vocabulary was directly tested and used to indicate the success of the program, the improvement of speaking ability was measured through a self-assessment survey. A total of 32 students (the population of the school) were given a statement *"I can express my thoughts in Jejueo"* and asked to rate their ability on a five-point Likert scale (The

Jejueo clubs were formed; a Jejueo E-book was created; parents were invited to learn Jejueo and Jeju culture together; and students were encouraged to keep a journal reporting Jejueo conversations with grandparents and local Jejueo speakers. Efforts were also made to teach through reading, writing, playing games and translating from Jejueo to Korean or Korean to Jejueo

results showed a 17.3% increase in positive ratings after one year.) However, as mentioned in Chapter 1 (Section 1.6), self-assessment of language ability can yield misleading results. The development of an objective assessment tool for speech production is essential in order to improve the quality of Jejueo programs.

School 2. The Gwangryeong Elementary School (2015) provided a Jejueo program for grade 1 to grade 6 students (n = 158). To test Jejueo ability, the school employed a vocabulary test and a speaking test. The vocabulary test, which was given only to the students in grades 3 to 6, called for the translation of 30 vocabulary tokens by selecting possible responses from a word bank that included the target words that they were being tested on. It was reported that 91.1% of the students scored less than 60 out of 100 on the vocabulary test before the program began.

(c)

Jejueo words into Korean
gaeyeomji: _____ (answer: *gaemi* 'ant')
[Korean Word bank: *jesa, gaemi, namu*,…]

In the pre-test, to measure speaking ability, the students were given five Korean sentences and were asked to translate them into Jejueo and then to read them aloud for audio-recording. Neither task involves the use of language in a communicative context, such as the description of an event or engaging in a conversation. In this speaking pre-test, 87.3% of students scored less than 60 out of 100.[18]

[18] The report did not specifically explain their procedure and how they scored them.

(d)

Instruction 1: Translate the following sentences and translate them into Jejueo.

Korean:
아니, 못 봤어. 더 예쁜 코 봐봤어?
Ani mos bw-ass-eoo deo yeppeu-n ko bw-a-bw-ass-eo?
no cannot see-PFV-SE more pretty-PST.CON nose see-LV-try-PFV-SE [19]
'No, I haven't seen. Have you seen a nose that is prettier?

Jejueo: _____

(e)

Instruction 2: After your translation, read your Jejueo sentences to your teacher.

Unfortunately, the post-test results have not been made publicly available, leaving open the question of whether there was improvement in speaking ability.

In summary, although the Jeju local government and the Ministry of Education have developed positive policies and invested a substantial sum of money to raise awareness of Jejueo, it is clear that Jejueo education in public school requires more systematic and practical support in the area of assessment to evaluate both the curriculum and the performance of students.

2.3 Language assessment for endangered languages

Assessments of endangered language proficiency are rare because of the shortage of experts and resources in the endangered language communities. As a result, only a handful of communities have created rigorous assessment instruments, including Māori in New Zealand, Cherokee, and

[19] PFV=Perfective; SE=Sentence Ender; PST.CON=Past, Connective; LV=Linking Vowel. Sentence enders in Jejueo are utterance-final morphemes that carry various syntactic, semantic, and pragmatic functions. First, they indicate sentence types (e.g., declarative, interrogative, imperatives, prepositives, and exclamatory). Next, they are associated with speech levels that reflect the social relationship between listeners and speakers. In addition, they can mark evidentiality based on the speaker's direct observation or inference.

Hawaiian in North America (Cooper et al., 2004; Housman et al., 2011; Peter et al., 2011). Various experimental language-neutral materials for measuring skills in comprehension and production are also available, including the Hawaii Assessment of Language Access (HALA) project (O'Grady et al., 2009) and the Tool for Intergenerational Transmission Assessment (TITA), prepared by Deen et al., (2016). The shared purpose of these assessment tools is to objectively measure knowledge of the target endangered language. However, they are currently in the "development phase" and have not yet been widely used.

Self-assessment is a simple and quick method for measuring the level of fluency of attained by speakers of an endangered language. However, as mentioned in Chapter 1 (Section 1.6), it can misestimate the actual level of fluency. As Yang et al. (2017) suggest, the flaws associated with this method could be alleviated by having the participants take a comprehension test designed to assess their understanding of actual speech samples from the target language. Still, few if any surveys based on self-assessment incorporate this measure.

Although Jejueo is not widely taught in school, a proficiency test is essential in order to diagnose students' language abilities, so that curriculum developers can use the results for developing an appropriate Jejueo revitalization program (O'Grady, 2015).

2.4 English education, curriculum, and assessment

English instruction begins from Grade 3 in elementary school in Jeju, as in all other parts of Korea. As can be seen in Table 2.1, students take from 2 to 5 hours of compulsory English classes per week at each level of schooling until college. The goal of English education is to improve communication skills focusing on four language skill areas–speaking, listening, reading and writing. However, it is reported that fewer than 30% of English classes are taught in English (Kim et al., 2015, p. 21). English input is therefore extremely limited in many classrooms. As a

result, many students take private English lessons at a cost of approximately 80 dollars per month for each household (Kim et al., 2015, pp. 22-23).

Table 2.1. A summary of English education and assessment

	Grades /year	Hour/ week	Total hrs.	Goal	Focused language skills	Assessment
Elementary school	Grade 3 Grade 4 Grade 5 Grade 6	2hrs. 2hrs. 3hrs. 3hrs.	340 hrs.	Communication	Speaking, listening, reading, and writing,	No No Yes Yes
Middle school	Grade 1 Grade 2 Grade 3	3hrs. 3hrs. 4hrs.	340 hrs.	Communication	Speaking, listening, reading, and writing,	Yes Yes Yes
High school	Grade 1 Grade 2 Grade 3	5hrs. 5hrs. 5hrs.	510 hrs.	Communication	Speaking, listening, reading, and writing	Yes Yes Yes
College	Year 1 Year 2	2hrs. 2hrs.	60hrs.	Communication	Speaking, listening, reading, and writing	Yes Yes

(Jeon and Sohng, 2014, p. 100; Ju et al., 2016; Kim et.al., 2015, pp. 22-23)

The Korean Institute for Curriculum and Evaluation provides various test materials and guidelines for creating assessment tools for English teachers (Ju et al., 2016). However, the most popular assessment tool remains a written multiple-choice test rather than oral interviews, conversation, or presentations (Kim et al., 2015, pp. 22-23).

The importance of English grammar instruction in Korea has been downgraded in recent years, as more and more emphasis is being put on oral skills. The Ministry of Education has not provided an explicit list of target grammatical features in their guidelines, leaving schools and teachers to rely on the content of textbooks when it comes to teaching the forms and structures needed for particular communicative goals and situations.

Several researchers (Kim 2014; Lim, 2015) have pointed out the inappropriateness of the sequence in which grammatical features are presented, as well as imbalances in the frequency of particular verbal patterns in current English school textbooks. According to Kim (2014, pp. 13-

16), a majority of the chapters in English textbooks for the 5th graders in Korea cover the present tense and present progressive, which also dominate later chapters of the textbooks. As a result, students do not have enough opportunity to practice the past tense or modality. Moreover, Lim (2015) has observed that although the accuracy rate on the simple past tense is higher than on the simple present tense, textbooks tend to introduce the simple present earlier. Lim therefore suggests that the simple past tense should be introduced early in curriculum to reflect its relative ease of acquisition.

These textbook analyses are consistent with teachers' perception of the frequency order of the target verbal patterns in the classroom. I asked three elementary school teachers to order the target verbal patterns based on the amount of input they believe that their students are receiving in the classroom environment. They listed the following frequency orders (Personal communication). [20]

- Teacher1 (Whang, 2018)
  Simple Present>PRS_PROG>Simple Past>Y/N Questions>Modality
- Teacher2 (Kim, 2018)
  Simple Present>PRS_PROG >Y/N question>Modality>Simple Past>Deference>PST_PROG
- Teacher3 (Lim, 2018)
  Simple Present>Simple Past>Modality>PRS_PROG> Y/N question> Deference>PST_PROG

Some other researchers have pointed out a lack of continuity in English education between elementary and Middle School. According to Lee et al. (2001), the focus on English writing and grammar increases dramatically in middle School compared to elementary school, as does the difficulty of the English textbook.

[20] PRO_PROG= Present Progressive; PST_PROG=Past Progressive

2.5 Research Questions

My research question for both Jejueo and English is quite simple:

- What is the developmental profile for each language?

I take the language's developmental profile to reflect the extent to which different properties and patterns are acquired (if at all), the order in which full or partial mastery unfolds, and (to a lesser extent) the types of errors that are made in the course of their mastery.

The study of a language's developmental profile in this sense requires data from learners at different stages in their life. For practical reasons, I will conduct a cross-sectional study (rather than a longitudinal study) involving the following five groups of participants.

- Elementary School (10 years old)
- Middle School (13 years old)
- High School (16 years old)
- College (18-27 years old)
- (Post-college) Adult (30-67 years old)

Because this is the first study of its type ever attempted on Jeju Island and because anecdotal reports indicate that proficiency in both Jejueo and English is quite limited, I chose to focus on the following very basic but communicatively important phenomena in the two languages.

- Basic vocabulary
- Perfective (Jejueo)/Past Tense (English)
- Continuative(Jejueo)/Progressive Aspect (English)
- Prospective(Jejueo)/Future Modality (English)
- *Yes/No* question formation
- Deference

2.6 The Hypothesis

My principal hypothesis is as follows:

- Proficiency will correlate with the amount of exposure to the target language.

In the case of Jejueo, opportunities for exposure to the language decrease with each passing year as fluent elders pass away. Thus, we can assume that in general children born in 2010 had fewer opportunities to hear the language than children born in 2000, who in turn were exposed less to the language than children born in 1990, and so on. As a result, younger participants in this study should be significantly less fluent than their older counterparts. The most fluent participants of all should be in the oldest group, who were exposed to the language in childhood and through adolescence, ensuring a degree of fluency that will resist subsequent attrition (O'Grady, 2018, p.497).

In the case of English on the other hand, the situation is quite different—although the end result may appear to be similar. Their exposure to English comes largely from the classroom, not from the home. Their familiarity with the language, therefore, increases with each passing year, leading to the expectation that older students (who have spent more time in school) will, in general, be more proficient in English than their younger counterparts. There is a possible caveat here, however: middle-aged participants may well be *less* proficient in English than school- and college-aged participants, either because they did not receive the same quality of instruction when they were in school or because they have forgotten what they learned due to the lack of opportunity to use English.

My study focuses on the question of just how poorly (or well) individual groups of participants do in each language. Having this information for Jejueo will shed light on the extent of the language's decline and the prospects for its revitalization, especially in light of the current

meager attempts at school-based instruction. Obtaining this information for English will be important for evaluating the success of English as a foreign language (EFL) programs on Jeju Island, as the province seeks to prepare its young people for life in a global economy dominated by a foreign international language.

2.7 Merits of the study

The merits of my study can be summarized by reference to four points.

1. This study is the very first attempt to develop an assessment tool for Jeju that will test the same lexical tokens and grammatical patterns in participants across different age groups from elementary school to the college level and beyond, allowing educators to directly track the emergence and maintenance of these components of language.
2. This study is the very first assessment of any type to examine proficiency in three languages – Jejueo and English as L2s and Korean as an L1. This approach differs from other attempts to measure proficiency, which focus on two languages at most (and more often on just one). As we will see in later chapters, the comparative method that I adopt offers insights into development that would not otherwise be possible.
3. This study differs from the traditional methods for testing knowledge of English in the schools on Jeju Island by focusing on the production of words and sentences in test situations that call for language to be used in ways that are as similar as possible to what is required in naturalistic situations.
4. The results of this study offer administrators the first-ever body of data to assess the needs of the schools in meeting their responsibility to provide opportunities for students to learn both Jejueo and English, in accordance with the wishes of the community.

Chapter 3 The Assessment Tests

In this section, I describe the test instrument that was developed for this study. The Pan-Scholastic Language Test was developed to assess language knowledge of basic lexical items and grammatical patterns in participants across all age groups and both languages. Knowledge in this case was operationalized as proficiency on written elicited production tasks presented in a paper-based format so that they could be administered efficiently to large groups in classroom settings.

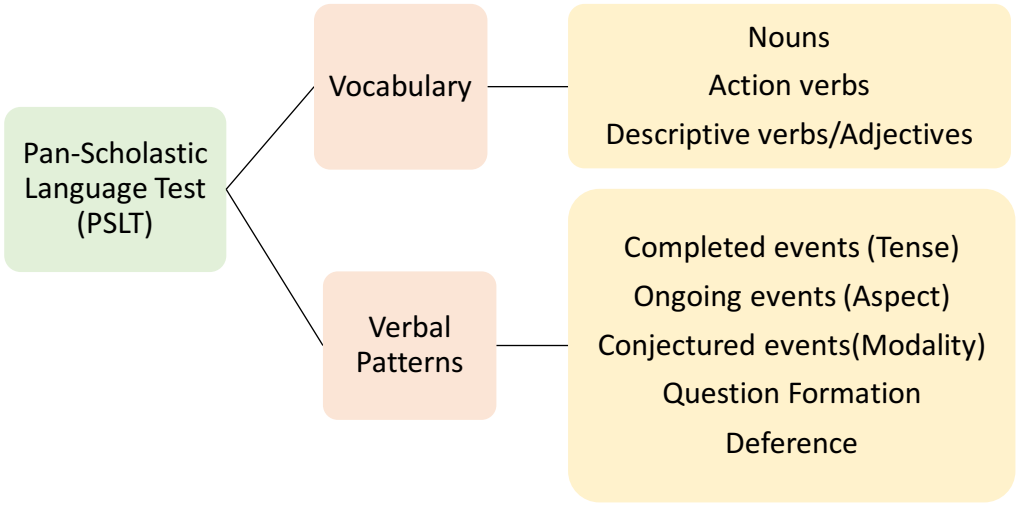
3.1 Pan-Scholastic Language Test (PSLT)

To test the two languages, two main components -- vocabulary and verbal patterns -- were selected based on the following three main guidelines.

- The tokens and patterns to be tested had to be semantically and functionally similar in the two languages (Jejueo and English).
- The tokens and patterns had to be important for daily communication.
- The tokens and patterns are expected to already have been learned by the youngest participants (10 years old) in their dominant language (Korean).

As can be seen in Figure 3.1, the two main components of each test involve vocabulary and verbal patterns. The vocabulary component is designed to test the participants' ability to name objects and actions by using particular nouns, action verbs and descriptive verbs. The verbal pattern component is designed to test the proficiency in the use of particular verb forms to express tense/aspect/modality (TAM), *yes/no* questions, and deference.

Figure 3.1. The outline of the Pan-Scholastic Language Test (PSLT) construction



The PSLT consists of a series of tasks in which pictures (accompanied by written contexts in the case of verbal patterns) are used to elicit words and sentences that describe or ask about particular objects and situations that one commonly experiences in everyday life. This type of test is thus very different from the tasks found in many standardized tests, which require filling in blanks in sentences created by test makers, choosing from among a set of grammatical or lexical options provided by test makers, correcting mistakes deliberately made by test makers, or demonstrating passive knowledge by answering questions about texts created by test makers—to mention just four common practices.

The assessment of the participant's responses takes into account only the choice of lexical item or grammatical pattern. Success or failure in spelling or in the use of words or patterns not being tested was ignored.

Two further points call for comment. First, because I had reason to be concerned about the fluency of the participants in both Jejueo and English, all the instructions and prompts

accompanying our test tokens were presented in Korean for the Korean-speaking participants. This allows evaluation of test takers' production skills without the need to be concerned about whether they understand the instructions and contexts used to elicit particular words and patterns. Moreover, because the target words and patterns in both Jejueo and English are unlike the words and patterns used in the Korean instructions and contexts, the problem of priming effects is minimized.

Second, because the test was to be administered to hundreds of participants, practical considerations relating to the resources available in the schools, as well as their willingness to set aside time for test taking, made it necessary to use written tests and to elicit written responses. This allowed the administration of the tests to large numbers of participants at the same time, while also facilitating assessment of the results which would otherwise have had to be transcribed--an arduous and time-consuming task.

The next several sections describe and exemplify the test tokens used for each component of the assessment. The full set of tokens can be found in Appendix 1.

3.2 The Vocabulary Production Task (Jejueo and English)

A total of 50 pictures were selected to elicit vocabulary tokens of various types, including 36 nouns, 8 action verbs, and 6 descriptive verbs (also called "stative verbs" or "adjectival verbs") for Jejueo /adjectives for English.

Jejueo and English vocabulary items were selected from the word list recommended by the Korea Institute for Curriculum Evaluation for elementary school and middle school children and from two Jejueo textbooks (Ju et al., 2009; Yang et al., 2017). All of the Jejueo vocabulary items could be matched with corresponding synonymous English words except for two cases involving objects with special cultural associations: *bomal* 'gastropod' (#32) was used as the counterpart to

English *shell*, and *nawmppi* 'radish' (#34) as the counterpart to English *onion*. In addition, care was taken to ensure that none of the target Jejueo words were close cognates of their Korean counterparts.

The responses of a control group of fluent native speakers determined the set of target responses for each language; see Chapter 3 for more details.

Nouns. A total of 36 nouns of roughly comparable frequency in daily language use were selected from several different domains, including Nature (6 tokens), Household (6 tokens), Food (6 tokens), Animals/Insects (6 tokens), Body Parts (6 tokens), and Kinship (6 tokens).

Figure 3.2. A sample test item from the noun production task: picture, target responses, and instruction

Instruction: 그림에 알맞은 제주어/영어 낱말을 쓰시오. 'Write the name of the object in the picture.'

Target responses:
Jejueo: *gojang* 고장
English: *flower*

Note. The instruction was given in Korean.

Table 3.1. A summary of the target vocabulary items: Nouns

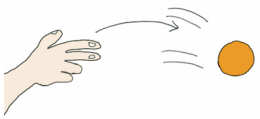
Domain	Jejueo (36 tokens)	English (36 tokens)
Body parts (6 tokens)	*dugji* 둑지	*shoulder*
	se 세	*tongue*
	dawgmawlawb 독ᄆᆞ룹	*knee*
	kkwang 꽝	*bone*
	yagaegi/mogaji 야개기/모가지	*neck*
	yangi/naws 양지/놋	*face*
Household terms (6 tokens)	*gawse* 그세	*scissors*
	banong 바농	*needle*
	bichilag 비치락	*broom*
	chalong 차롱	*basket*
	swette 쉐떼	*key*
Nature words (6 tokens)	*nang* 낭	*tree*
	gojang 고장	*flower*
	sanggoji 상고지	*rainbow*
	badang 바당	*sea*

Domain	Jejueo (36 tokens)	English (36 tokens)
	teyeog 테역	*grass*
	mosal 모살	*sand*
Animal names (6 tokens)	*gonengi* 고넹이	*cat*
	jwingi 쥉이	*mouse*
	dosegi 도세기	*pig*
	malchug 말축	*grasshopper*
	gawlgaebi 골개비	*frog*
	geyeomji 게염지	*ant*
Food terms (6 tokens)	*mulkkuleog/mungge* 물꾸럭/뭉게	*octopus*
	bomal 보말 'gastopod/seasnail/periwinkles'	*shell*
	gingi 깅이	*crab*
	nawmppi 놈삐 'radish/turnip'	*onion*
	dawgsegi 독세기	*egg*
	jisil/jiseul 지실/지슬	*potato*
Kinship terms (6 tokens)	*haleubang* 하르방	*grandfather*
	halmang 할망	*grandmother*
	abang 아방	*father*
	eomeong 어멍	*mother*
	seong 성 'older brother'	*(older) brother*
	asi 아시 'younger sibling'/ *nui* 'younger sister'	*(younger) sister*

Action verbs. A total of 8 tokens were verbs denoting actions that commonly appear in everyday life. Because verbs are somewhat more difficult to elicit than nouns, a sample picture and matching target answer were provided immediately before this portion of the test began.

Figure 3.3. A sample test item of the action verb production task: picture, target responses, and instruction

Instruction: 그림에 나타난 동작을 잘 나타내는 제주어/영어 낱말을 쓰시오. 'Write the word that describes the action in the picture.'



Target responses:
Jejueo: *dekkida* 데끼다
English: *throw*, *toss*

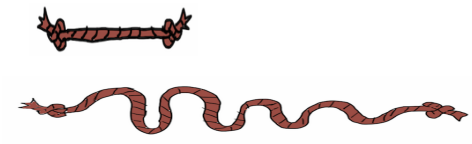
Table 3.2. A summary of the target vocabulary items: Action verbs

Domain	Jejueo	English
Action verbs (8 tokens)	*dekkida* 데끼다 *gawsda* 갓세다 *simda* 심다 *belida* 베리다 *mundeulida* 문드리다 *beolleuda* 벌르다 'divide into half' deokkeuda 더끄다 *twida* 튀다	*throw/toss* *cut* *hold* *see* *drop* *swim* *close* *jump*

Descriptive verbs/Adjectives. In order to elicit property-denoting words, participants were asked to describe two objects with a contrasting characteristic, such as length. As was the case with the verb elicitation, a sample test item and answer were presented right before the test began.

Figure 3.4. A sample test item from the descriptive verb/adjective production task: picture, target responses, and instruction

Instruction: 이 줄의 길이는 어때요? 'Write the word that describes the length of each rope.'



Target responses:
Jejueo: *jjolleuda* 쫄르다, *jilda* 질다
English: *short*, *long*

Table 3.3. A summary of the target vocabulary items: Descriptive verbs/Adjectives

Domain	Jejueo	English
Descriptive Verbs /Adjectives (6 tokens)	*geomeonghawda* 거멍ᄒᆞ다 *heoyeonghawda* 허멍ᄒᆞ다 *jjawlleuda* 쫄르다 *jilda* 질다 *hulgda* 흙다 *jolda* 졸다	*black* *white* *short* *long* *big* *small*

3.3 The Verbal Pattern Production Task

A total of 42 test tokens were created to test proficiency in various verbal patterns. The responses of a control group of fluent native speakers[21] determined the target responses; see Chapter 4, Section 4.1 and Appendix 2.

Targeted TAM verbal patterns. Four TAM verbal patterns (six tokens of each type) were elicited for Jejueo--the Perfective/Past the Present Continuative, the Prospective, and the Past Continuative. Samples of each, along with a sample target response, are presented in Table 3.4.

Table 3.4. A summary of the Jejueo TAM Verbal Pattern Production Task

Jejueo	Target morphemes and structure	Examples of possible responses
Continuative (6)	V+ -eoms + SE	*Ul-eoms-jeo.* 울엇저 cry-CONT-SE '(She) is crying.'
Perfective/Past (6)	V+ -eos/-as + SE	*Gwegi nakk-as-jeo.* 궤기 낚앗저 fish catch-PFV-SE '(He) caught a fish.'
Prospective (6)	V+ -euk + SE	*Meog-euk-yeo.* 먹으켜 eat-PROSP-SE '(He) will eat.'
Past Continuative (6)	V+ -eoms-eon-ge	*Cheg ig-eoms-eon.* 책 익엇언. book read-CONT-PFV.SE '(She) was reading a book.'

Table 3.5 summarizes the four patterns (six tokens of each type) that were targeted in English: The Present Progressive, the Simple Past (3 regular verbs, 3 irregular verbs), the Future Modal, and the Past Progressive. Examples of each appear in the table below.

[21] The fluent native Jejueo speakers were born and raised in Jeju, and had lived elsewhere for no more than three years (some male speakers had fulfilled their three-year military obligation outside Jeju Island. It was compulsory for male citizens in Korea). They were between 65 and 87 years old, and were considered to be fluent speakers of Jejueo by other community members. The native English speakers, all from the USA, were between 28 and 37 years old.

Table 3.5. A summary of the English Verbal Pattern Production Task

English	Target morphemes and structure	Examples of possible responses
Present Progressive (6)	*be* + V*ing*	*She* ***is crying.***
Simple Past (6)	regular verbs	*She* ***boiled*** *eggs.*
	irregular verbs	*He* ***caught*** *a fish.*
Future Modality (6)	*will* + V *be going to* + V	*He* ***will eat*** *the cake.* *He* ***is going to eat*** *the cake.*
Past Progressive (6)	*be*+V*ing*	*She* ***was crying.***

Almost identical picture elicitation tasks were used for Jejueo and English, except for minor and grammatically irrelevant variations involving the depiction of culturally appropriate tokens. For instance, a picture of a cake was selected for English whereas an *omigitteog* (a traditional Jeju black bean rice cake) was used for Jejueo for item 40. (See Figure 3.7 below). Sample pictures for all the verbal patterns are illustrated below.

Ongoing events: Continuative (CONT, Jejueo), Progressive (PROG, English). In order to elicit use of the Jejueo continuative and the English progressive, test takers were asked (in Korean) to answer the question, *Yeonsu jigeum mwohae?* 연수 지금 뭐해? 'What is Yeonsu doing now?' as they looked at a picture depicting an ongoing action. Sample target responses are provided below for both languages.

Figure 3.5. A sample test item of the continuative (Jejueo) /Present Progressive (English) production task: picture, target responses, and instruction

Instruction: 질문에 알맞은 답을 그림을 보면서 영어로 쓰시오. 철자가 틀려도 괜찮습니다. 'Look at the question, and write the best response in English. 'Spelling mistakes are okay.'
Question: 연수 지금 뭐해? 'What is Yeonsu doing now?'

Yeonsu 

Target responses:
Jejueo: *Ul-**eoms**-jeo.* 울었저
cry-CONT-SE
English: *She **is** cry**ing**.*

Completed events: Perfective (PFV, Jejueo), Simple Past (English). In order to elicit the production of verbs denoting past or perfective events, test takers were asked to answer the question *Suhoneun eoje mueoseul haesseo?* 수호는 어제 무엇을 했어? 'What did Suho do yesterday?,' based on information that can be gleaned from a picture.

Figure 3.6. A sample test item of the Perfective (Jejueo)/simple past (English) production task: picture, target responses, and instruction

Question: 수호는 어제 무엇을 했어? 'What did Suho do yesterday?'

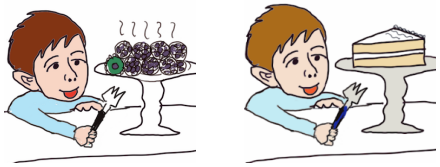
Suho

Target responses:
Jejueo: *Gwegi nakk-**as**-jeo*. 궤기 낚앗저
fish catch-PFV-SE
English: *He **caught** a fish*.

Conjectured events: Prospective (PROSP, Jejueo), Modal (English). In order to elicit use of the Jejueo Prospective and the English Future, participants were asked to answer a question such as *Baega gopeun Minhoga masissneun omegitteog(keikeu)eul balabogo isseo. God museum ili ileonalkka?* 배가 고픈 민호가 맛있는 오메기떡(케익)을 바라보고 있어, 곧 어떻게 되겠니? 'Hungry Minho is looking at the delicious *omegitteog* (Jejueo)/cake (English). What will happen (next)?'.

Figure 3.7. A sample test item of the prospective, future (Jejueo)/ future modality (English) production task: picture, target responses, and instruction

Question: 배가 고픈 민호가 맛있는 오메기떡(케익)을 바라보고 있어, 곧 어떻게 되겠니? 'Hungry Minho is looking at the delicious *omegitteok* (Jejueo)/cake (English). What will happen next?'



(Jejueo) (English)

Minho

Target responses:
Jejueo: *Meog-**euk**-yeo*. 먹으켜
eat -PROSP-SE
English: *He **will** eat the cake*.

Ongoing events in the past: Past Continuative (PST_CONT, Jejueo), Past Progressive (PST_PROG, English). Use of the Jejueo Past Continuative and the English Past Progressive was elicited by asking test takers to answer a question such as *Obunjeone bange gasseulttae, Sora mweohago isseosseo?* 5 분전에 방에 갔을 때, 소라 뭐하고 있었어? 'When you went to Sora's room 5 minutes ago, what was she doing?' Sample correct responses are provided in both languages.

Figure 3.8. A sample test item of the Past Continuative (Jejueo)/past progressive (English) production task: picture, target responses, and instruction

Question: 5 분전에 방에 갔을 때, 소라 뭐하고 있었어? 'When you went to Sora's room 5 minutes ago, what was she doing?'

Sora

Target responses:
Jejueo: *Cheg ig-**eoms-eon**.* 책 익없언.
book read-CONT-PFV.SE
'(She) was reading a book.'
English: *She **was reading** a book.*

***Yes/No* Question Formation Task.** Table 3.6 summarizes the *yes/no* question patterns in Jejueo. Two sub-conditions were created–one with nouns and the other with descriptive verbs, which differ in terms of the appropriate question marker (*-ga* in the first case, and *-ya* accompanied by the non-past suffix *-eun* in the second case).

Table 3.6. A summary of the Jejueo *Yes/No* Question formation task

Yes/No Question	Target morphemes and structure	Examples of possible responses
With nouns (3)	Noun + SE	*Nongbani-**ga**?* 농바니가? farmer-SE '(Is he) a farmer?
With descriptive verbs (3)	Descriptive verb + *eun* + *ya*?	*Jog-**eun-ya**?* 족은야? small-NPST-SE '(Is she) short?'

Table 3.7 summarizes the *yes/no* question patterns in English. In order to maintain the parallel with the Jejueo test, two sub-conditions were created–one with nouns and the other with adjectives. The purpose in both cases was to measure the ability of participants to produce a *yes/no* question by fronting an auxiliary verb.

Table 3.7. A summary of the English *Yes/No* Question Production Task

Yes/No Question	Target morphemes and structure	Examples
With nouns (3)	*be* + Subject + Noun	***Is he*** *a farmer?*
With adjectives (3)	*be* + Subject + Adjective	***Is she*** *short?*

A total of 6 tokens were designed; all pictures were identical for Jejueo and English.

***Yes/No* Questions with nouns.** As can be seen in Figure 3.9, a prompt was given as in *Chingu Yuriege jueojin salamdeule daehae jilmunhadeusi muleoboseyo.* 친구 유리에게 주어진 사람들에 대해 질문하듯이 물어보세요. 'Here is Yuri. Ask her about each person given below.' This was followed by a further prompt: *Hyuenwooga nonggbuinji meleobwa* 현우가 농부인지 물어봐. 'Ask whether Hyeonwoo is a farmer.' A total of 3 tokens were designed.

Figure 3.9. A sample test item for a *Yes/No* Question (Jejueo, English) with nouns: picture, target responses, and instructions

Instruction: 친구 유리에게 질문하듯이 물어보세요.
'Here is your friend, *Yuri.* Ask her about each person given below.'

Yuri

Question: 현우가 농부인지 물어봐. 'Ask whether *Hyeonwoo* is a farmer.'

Hyeonwoo

Target responses:
Jejueo: *Nongbani-**ga**?* 농바니가?
farmer-SE
English: ***Is he*** *a farmer?*

***Yes/No* Questions with descriptive verbs (Jejueo) and adjectives (English).** A total of three test tokens were created to elicit *yes/no* questions involving a descriptive verb/ adjective. As can be seen in Figure 3.10, the same initial prompt was given: *Chingu Yuriege jueojin salamdeule daehae jilmunhadeusi muleoboseyo.* 친구 유리에게 주어진 사람들에 대해 질문하듯이 물어보세요. 'Here is Yuri. Ask her about each person given below.' This was followed by a further prompt: *Eunjuga kiga jageunji muleobwa*. 은주가 키가 작은지 물어봐 'Ask whether Eunju is short.'

Figure 3.10. A sample test item of the *Yes/No* Question with descriptive verbs (Jejueo)/adjectives(English) production task: picture, target responses, and instruction

Instruction: 친구 유리에게 질문하듯이 물어보세요.
'Here is Yuri. Ask her about each person given bel ow.'

Yuri

Question: 은주가 키가 작은지 물어봐. 'Ask whether *Eunjoo* is short.'

Eunju

Target responses:
Jejueo: *Jog-**eun-ya**?* 족은야?
small-NPST-SE
English: ***Is she** short?*

Deference Task. Because of the differences between English and Jejueo with respect to the expression of deference, different protocols were developed for each language.

Jejueo deference patterns. A total of 12 tokens were created, six for action verbs and six for descriptive verbs. The need for two conditions stems from the fact that the Jejueo addressee honorific markers *-u* and *su* can be added to a bare adjectival verb, but require an inflected stem in the case of an action verb.

Table 3.8. A summary of the Jejueo Formal Sentence Production Task[22]

Jejueo	Target morphemes and structure	Examples
Deference (12)	Action Verb+ *-ams*+*-u* +SE	*Dol-**ams-u**-da.* 돌앎우다 run-CONT-AH-SE '(She) is running'
	Descriptive Verb + *-u/-su* + SE	*Jog-**su**-da.* 족수다 small-AH-SE '(It is) small.'

Figure 3.11 provides an example task item for the Deference task with action verbs. The context calling for the addressee marker was accompanied by the picture of a grandmother and a grandfather, with the written instruction, *Geurimeul bogo eoleunega malhadeusi Jejueoro dabhaseyo.* 그림을 보고 어른에게 말하듯이 제주어로 답하세요 'Answer the question as if you are talking to the elderly people in the picture.' The prompt question was *Sunjaneun mueoseul hago isseoyo?* 순자는 무엇을 하고 있어요? 'What is Sunja doing?'

Figure 3.11. A sample test item from the deference task involving action verbs: picture, target responses, and instruction

Instruction: 그림을 보고 어른에게 말하듯이 제주어로 답하세요. 'Answer the question as if you are talking to the elderly people(in the picture) in Jejueo.'

Question: 순자는 무엇을 하고 있어요? 'What is Sunja doing?'

Sunja 

Target responses:
Jejueo: *Dol-**ams-u**-da.* 돌앎우다
run-CONT-AH-SE
'(She) is running'

[22] AH=Addressee Honorific; CONT=Continuative, SE=Sentence Ender

Figure 3.12 provides an example task item for the deference pattern production task with adjectival verbs. The same picture and the written context was used as in the version of the task used for action verbs. The actual question was *Sinbal keugiga eottaeyo?* 신발 크기가 어때요? "What is the shoe size like?". The correct sample answer was *Jog-su-da* 족수다 'It is small' in Jejueo.

Figure 3.12. A sample test item from the deference task involving with descriptive verbs: picture, target responses, and instruction

Instruction: 그림을 보고 어른에게 말하듯이 제주어로 답하세요. 'Answer the question as if you are talking to the elderly people in the picture.'

Question: 신발 크기가 어때요? What is the shoe size like?

Target responses:
Jejueo: *Jog-**su**-da.* 족수다
small-AH-SE
'(It is) small.'

English deference patterns. The English version of the Deference task was designed to elicit four requests and two offers, each in the form of a question rather than a command.

Figure 3.13. A summary of the English Deferential Sentence Production Task

English	Target morphemes and structure	Examples
Deference (6)	**Requests** *Would you* + Action Verb *Can you* + Action Verb *Please* + Action Verb	 ***Would you turn** the volume down?* ***Can you turn** the volume down?* ***Please** turn the volume down.*
	Offers *Would you like* + Noun	 ***Would you like** some cake?*

Figure 3.14 provides an example task item for English deferential requests, including the picture and written context.

Figure 3.14. A sample test item from the English deferential request pattern: picture, target responses, and instructions

Instructions: 주어진 글을 잘 읽고 영어로 답을 쓰세요. 'Read the passage, and write the correct request in English.' 철자가 틀려도 괜찮습니다. 'Spelling mistakes are okay.'

Question: 도서관 안에서 누군가 음악을 시끄럽게 듣고 있습니다. 볼륨을 줄여달라고 공손하게 물어보세요. 'Someone is listening to loud music in the library. Politely ask him to turn down the volume.'

Target responses
English: ***Would you*** *turn down the volume?*
Can you *turn down the volume?*
Please *turn down the volume.*

Figure 3.15 provides an example task item for English deferential offers.

Figure 3.15. A sample test item from the English Deferential offers task: picture, target responses, and instructions

Question: 선생님께 케익을 드리고 싶습니다. 케익을 드시겠냐고 공손하게 물어보세요. 'You want to give the teacher a piece of cake. Politely ask him/her to have a piece of cake.'

Target responses
English: ***Would you like*** *some cake?*

3.4 Conclusion

This chapter introduced the Pan-Scholastic Language Test, which was designed to measure production skills in both Jejueo and English by eliciting, with the help of pictures, various commonly used and communicatively important vocabulary items and verbal patterns. The next chapter will present the results for the two norming groups--Jejueo native speakers and English native speakers. In addition, the results of the Korean version of the test, designed to measure the viability of the tasks, will be reported.

Chapter 4 Norming Studies

In order to establish a set of possible target responses for each task, native speakers of each language were recruited and asked to take the Jejueo test and the English test, which I will call the 'benchmark study.' A further study, which I will call the 'viability study,' examined the performance of elementary school children on a Korean version of the test, as discussed in section 3.2.

4.1 The Benchmark Study

Participants

Twelve native Jejueo speakers (8 males and 4 females; aged from 63 to 87) and eleven native English speakers (5 males and 6 females; aged from 28 to 37) were recruited. All native Jejueo speakers were born and raised in Jeju, and all were residing in Jeju City at the time of the test administration. None of the female participants had ever lived outside of Jeju Island, and the male participants had done so only for a three-year period while in the military. Five of the participants had graduated only from elementary school and three from high school; the remaining four were college graduates. All were considered by their neighbors to be good Jejueo speakers.

The English native speakers were all from the USA. Ten were in postgraduate programs and one was a college graduate. All were residing in Hawaii at the time of the test administration.

Materials

The test materials intended for use with the language learners were given to the control groups (the English test tokens to the native speakers of English and the Jejueo test tokens to the native speakers of Jejueo). Instructions and prompts were presented in English for the native speakers of English and in Korean for the native speakers of Jejueo.

Procedure

All 12 native English speakers were able to respond in writing. However, because some elderly Jejueo speakers were not literate, they gave their responses orally to the researcher, who then recorded them in writing.

Results

Jejueo. The overall mean percentage score for the Jejueo control group was very high: 98% of their responses involved the use of the expected vocabulary items and morphological patterns, consistent with the information found in dictionaries and grammatical descriptions of the language. The native Jejueo speakers produced the Perfective (PFV) and Deference patterns with 100% accuracy, and the Present Continuative (PRS_CONT), Past Continuative (PST_CONT), Vocabulary (Vocab.), Prospective (PROSP), and Question patterns at rates of 98.61%, 97.22%, 94.21%, 98.61%, and 97.62% respectively.

Table 4.1. The overall mean percentage scores on grammatical patterns and vocabulary for the Jejueo control group (%, n=12)[23]

Overall Mean Percentage Score	PRS_ CONT	PST_ CONT	Deference	Vocab.	PROSP	Question	PFV
98	98.61	97.22	100	94.21	98.61	97.22	100

English. The mean accuracy rate for the English control group was 98.15%. Individual mean percentage scores are reported in Table 4.2.

Table 4.2. The mean accuracy rate on grammatical patterns and Vocabulary of the English control group (%, n=11)

Overall Mean Percentage Score	PRS_ PROG	PST_ PROG	Deference	Vocab.	Modality	Question	Past Tense
98.15	100	100	95.83	99.65	100	100	93.06

Discussion

The two control groups performed at a very high level of accuracy, as measured by their use of vocabulary and verbal patterns that are considered to be standard in their respective languages. This allowed us to use their responses to create answer keys that served as a baseline for assessing the responses of our target groups of learners (see Appendix 2).

4.2 The Viability Study

Yet another hurdle must be passed before the results of the test can be considered. Even though the pictures and prompts elicited the targeted vocabulary and morphological pattern from adults (see the preceding section), questions might arise as to whether these materials are appropriate

[23] PRS_CONT = Present Continuative; PST_CONT = Past Continuative, Vocab.= Vocabulary; PFV = Perfective

for use with young children. In particular, it is necessary to ascertain whether children grasp what is expected of them on each of the particular tasks in the assessment test. If they do not, then we obviously cannot use their responses to assess their knowledge of a second language.

In order to address this question, I administered the test to a group of Korean-speaking children and had them answer *in Korean*, in order to see whether they would produce the target vocabulary items and verbal patterns in their native language, thereby demonstrating an understanding of the tasks and what was expected of them.

Participants

The participants were 44 elementary school students (20 female and 24 male), aged 10 to 11. Thirty-six of the children were born on Jeju Island and five on the mainland of Korea. All were living in Jeju City at the time of the test administration.

Materials and procedures

The Korean version of the test was administered in several elementary school classrooms with permission from school administration. The participants were asked to complete a short demographic questionnaire before the actual test began. The entire procedure took 50 minutes. The target Korean structures are outlined in the table below.

Table 4.3. A summary of Korean verbal patterns

Verbal Pattern	Target grammatical morphemes and structure	Examples
Continuative	V-*go iss-*	*Ul-**go** **iss**-eo*. 울고 있어. cry-CON be-SE '(She) is crying'

Verbal Pattern	Target grammatical morphemes and structure	Examples
Perfective	V-*eoss*-	*Gogi jab-**ass**-eo.* 고기 잡았어.[24] fish catch-PFV-SE '(He) caught a fish.'
Prospective	V-*gess*-	*Nog-**gess**-ji.* 녹겠지 melt-PROSP-SE '(It) will melt'
Past Continuative	V-*go iss-eoss*-	*Cheg ilg-**go** **iss**-eoss-eo.* 책 읽고 있었어. book read-CON be-PFV-SE '(She) was reading a book'
Yes/No Questions	Noun-*ni*?	*Nongbu-**ni**?* 농부니? farmer-SE '(Is he) a farmer?
	Descriptive Verb-*ni*?	*Ki keu-**ni**?* 키 크니? height tall-SE '(Is she) tall?'
Deference	V-*go iss-eoyo*	*Dalli-**go** **iss-eoyo**.* 달리고 있어요. run-CON be-SE '(She) is running.'

Results

The participants' responses were coded by two raters: the researcher and an independent rater. The percent agreement between the two raters was 95%. An interrater reliability analysis using the Kappa statistic yielded a strong result: Kappa = 0.781($p < .0001$), 95% CI (0.762, 0.798). This value is substantial (Landis and Koch, 1977).

As summarized in Table 4.4, the participants' overall mean percentage score was 92.02%, ranging from 76.89% on the Past Continuative test to 96.32% on the Vocabulary test.

[24] -*ass* is an allomorph of –*eoss.*

Table 4.4. Mean accuracy rate on Test Tasks (n=44)[25]

Domain	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Vocabulary	97.53	97.78	2.84	86.67	100	0.43	96.67	98.39
Present Continuative	95.83	100	10.86	50	100	1.64	92.53	99.13
Prospective	93.94	100	16.89	16.67	100	2.55	88.8	99.08
Question	86.36	100	27.2	0	100	4.1	78.09	94.63
Deference	84.85	100	31.14	0	100	4.69	75.38	94.32
Perfective	84.47	100	25.26	0	100	3.81	76.79	92.15
Past Continuative	76.89	100	36.87	0	100	5.56	65.68	88.1

Details for particular classes of vocabulary items and for particular verbal patterns are summarized in the tables below.

Table 4.5. The overall mean percentage scores by lexical domain (n=44)

Domain	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Household	97.73	100	6.42	80.00	100	0.97	95.78	99.68
AV	95.91	100	8.16	80.00	100	1.23	93.43	98.39
Body	95.83	100	7.30	83.33	100	1.10	93.61	98.05
Food	99.62	100	2.51	83.33	100	0.38	98.86	100.38
Animal	97.73	100	6.81	66.67	100	1.03	95.66	99.80
Nature	99.24	100	3.51	83.33	100	0.53	98.17	100.31
DV	95.91	100	9.23	60.00	100	1.39	93.10	98.72
Kinship	98.11	100	6.45	66.67	100	0.97	96.15	100.07

Table 4.6. The overall mean percentage scores on verbal patterns (n=44)

Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
86.74	95.24	18.57	14.29	100	2.8	81.09	92.39

[25] Most of the incorrect responses on the Past Continuative patterns involved the use of the Present Continuative patterns.

Table 4.7. The overall mean percentage scores on Question Formation in the Korean test (n=44)

	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Question 1	88.64	100	25.86	0	100	3.90	80.78	96.50
Question 2	84.09	100	33.32	0	100	5.02	73.96	94.22

Note. Question 1=*Yes/No* Question formation with verbs; Question 2= *Yes/No* Question formation with nouns

Table 4.8. The overall mean percentage scores on the Deferential task in the Korean test (n=44)

	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Deference 1	82.95	100	36.74	0	100	5.54	71.78	94.12
Deference 2	86.74	100	32.27	0	100	4.86	76.93	96.55

Note. Deference 1=Deference pattern with action verbs; Deference 2= Deference patterns with descriptive verbs

4.3 Conclusion

This chapter reports the results of two important norming tests. The first test examined the performance of adult native speakers of Jejueo and English to make sure that the materials used for each language would in fact elicit an appropriate response. Both English and Jejueo native groups performed as expected, making it possible to use their responses to create the answer key for scoring the responses of the test participants.

The second test examined the ability of 10 to 11-year-old children to respond appropriately in their dominant language (Korean) to the pictures and contexts that we used to elicit target structures. Their performance reached the ceiling level on the Vocabulary, Present Continuative, and Prospective tasks, and levels of success of over 80% in all but one of the other tasks.

We are therefore able to proceed with our examination of the results of the tests given to assess knowledge of Jejueo and of English in our target groups. The next two chapters focus on that matter.

Chapter 5 Developmental Profile of Jejueo

This chapter reports the results of the Jejueo test that was designed to diagnose the level of Jejueo proficiency across five cohorts and almost three generations. The first section describes the method that was used, including details of the participants, the materials, the procedures, and the scoring practices. The second section presents the results of the test.

5.1 Method

5.1.1 Participants

The participants consisted of five groups of randomly selected Jeju Islanders:[26] 51 Elementary School students, 50 Middle School students, 50 High School students, 40 College students, and 51 Adults (over 30)[27]. All had at least one parent from Jeju Island, had been born and raised on Jeju Island, and were residing there at the time of the test. Table 5.1 summarizes the number of participants in each group and their gender. School-age participants were attending schools in Jeju City.

Table 5.1. Description of participant groups (n=244)

Participants	Elementary	Middle School	High School	College	Adult
Age	10	13	16	18-27	30-67
Male	23	22	19	17	23
Female	28	28	31	25	28
Total	51	50	50	42	51

[26] The term 'Jeju Islanders' is used in this study to refer to people who were raised on Jeju Island by at least one parent who had also been born and raised in Jeju.

[27] The adult participants were all of post-college age. Fourteen of the 51 adult participants were born in Seogwipo city, but only four of them were residing there at the time of the test administration; the remaining 37 participants were born in Jeju City. In terms of their occupation, 12 were housewives; 15 were educators, including one professor; 3 were business owners; 13 were civil servants or office workers; and 8 did not specify their occupation. Of the 51 participants, one had graduated only from primary school, one from middle school, eight from high school and 36 from college; 5 had doctoral degrees.

5.1.2 Materials

The test that was developed to assess knowledge of Jejueo, consisting of a total of 92 items (50 focusing on vocabulary and 42 involving verbal patterns), is described in detail in Chapter 3. It was accompanied by a survey designed to gather information about the participants' age, years of exposure to the language, place of residence, family composition, language attitudes, and education (see Appendix 3).

The order of presentation of the tasks is as follows, with portions of the vocabulary test interspersed among the verbal morphology tasks that made up the remainder of the test.

Table 5.2. Task presentation order for the Jejueo Test

Jejueo
1) **Survey**
2) **Vocabulary**: kinship terms (6 tokens)
3) **Vocabulary**: nature terms (6 tokens)
4) **Present Continuative**: (6 tokens)
5) **Vocabulary**: descriptive verbs (6 tokens)
6) **Perfective**: (6 tokens)
7) **Vocabulary**: food names (6 tokens)
8) **Prospective**: (6 tokens)
9) **Vocabulary**: animal names (6 tokens)
10) **Past Continuative**: (6 tokens)
11) **Vocabulary**: body parts (6 tokens)
12) ***Yes/No* Question**: with nouns (3 tokens), and with descriptive verbs (3 tokens)
13) **Vocabulary**: action verbs (8 tokens)
14) **Deference 1**: with action verbs (6 tokens)
15) **Deference 2**: with descriptive verbs (6 tokens)
16) **Vocabulary**: terms for household goods (6 tokens)
Total: 92 tokens

Although the original test included fifty vocabulary items, five vocabulary tokens were eliminated in the final analysis for two main reasons. First, native Jejueo speakers confirmed that 4 items were identical to their Korean counterparts, making it impossible to know whether a correct response reflected knowledge of Korean or knowledge of Jejueo. Second, the picture for one of the target items ("cupboard") was confusing to the participants. Because it also depicted plates and cups, many of the younger test takers (Elementary School to College groups) named those objects rather than the cupboard. For this reason, item #86 was eliminated from the analysis (see Table 5.3). For the sake of comparison, the corresponding five items were also removed from the analysis of the English test results.

Table 5.3. Eliminated vocabulary items

Item number	Jejueo	Korean	Gloss
# 23	*hulgda* 흙다/*keuda* 크다	*keuda* 크다	'big'
# 68	*twida* 튀다 /*ttwida* 뛰다	*ttwida* 뛰다	'jump'
# 72	dekkeuda 더끄다/*milda* 밀다	*milda* 밀다	'close'/'push'
# 73	*beollueda* 벌르다/*sseolda* 썰다	*sseolda* 썰다	'divide in half'/'cut'
# 86	*sale* 살레 	*chasjang* 찻장	'cupboard'

5.1.3 Procedure

On the assigned testing day, school-aged participants were given a test packet in their classroom that included the questionnaire and the English and Jejueo tests. The order in which the English

and Jejueo tests were taken was randomly assigned to individual participants. Participants were encouraged to answer all questions in each task.

After completing the test for each language, the participants were asked to record the elapsed time. All the participants finished the two tests within the allotted time of one hour for each test. Students who finished the first test earlier than their classmates were asked to quietly read books (not related to Jejueo or English) while awaiting the start of the second test. When everyone had completed the first test, they were asked to begin the second test.

The test for adult participants was administered either in their homes or in quiet places where two to five people could take the test together. The same test-taking procedure described above for the child participants was used for the adult groups.

5.1.4 Independent rater

One native speaker of Jejueo was selected as an independent rater to score the Jejueo responses. Before she started rating responses, she was asked to take the test so that she could be familiar with the task and the target responses. Her responses were not included in the reported analyses.

The Jejueo rater was asked to score only the responses for the verbal morphology tasks. This decision was made to help reduce the demand on the rater's time, allowing her to score the responses from all five age groups. Because scoring the vocabulary section was more straightforward, it was carried out solely by the researcher, who called upon the native-speaker rater only for unclear responses.

5.1.5 Scoring instrument

The raters used Excel files to score responses, which were classified employing a binary scoring system: 0 for non-target responses and 1 for target responses, as determined by the responses of the native speaker controls. Language-specific scoring guidelines were used to supplement the answer key (see Appendix 4). Only target grammatical features were assessed; other parts of the responses were not assessed or rated.

5.1.6 Inter-rater reliability

The agreement rate for the two raters was 97.2 %. An inter-rater reliability analysis using the Kappa statistic was performed to determine consistency among raters, yielding Kappa = 0.781 ($p < .0001$), 95% CI (0.762, 0.798).

5.2 Analysis

Statistical data analyses and visualizations were carried out in the R environment which is a free open-source software package (R version 3. 4. 4; R Core Team, 2013). Parametric analyses with an a priori alpha of 0.05 were planned for all group comparisons. In order to detect differences in groups involving multiple independent variables (Elementary School, Middle School, High School, College and Adult), a one-way ANOVA was planned. T-tests were planned as post-hoc measures after running the ANOVA. In addition, in order to compare differences involving multiple dependent variables, a repeated-measures ANOVA was planned.

When the data did not meet the parametric assumptions, the use of non-parametric alternatives was planned. If the data do not meet the assumptions of the one-way ANOVA, a Kruskal-Wallis H test was used to investigate independent group differences. The Kruskal-

Wallis test is a non-parametric alternative to a one-way ANOVA (Corder and Foreman, 2014; Sheskin, 2000), and is recommended when the assumptions of the one-way ANOVA test are not met. The Friedman test is a non-parametric alternative to the repeated-measures ANOVA (Corder and Foreman, 2014; Sheskin, 2000) that was used to investigate dependent group differences when the data did not meet the assumptions of the repeated-measures ANOVA.

5.3 Results

In this section, I will report on the ability of the participants to produce target vocabulary items and verbal patterns that fall within the range of usage described in the literature on Jejueo and were confirmed by the responses of the control groups for each language. I will focus on findings that relate to my major research question (Chapter 1, Section 1.6), namely: 'What is the developmental profile for Jejueo?'

In using the term ‘developmental profile,’ I do not have in mind a trajectory of language learning that eventually leads to full proficiency in the language, as happens in the case of normal first language acquisition. To the contrary, I predict that development in the case of Jejueo stops at a premature point, due to a lack of exposure to the language during the early years of life. I focus here on exactly what is learned (or not learned) before this point is reached.

The expectation is that knowledge of Jejueo will correlate with age and therefore with their year of birth: older participants will perform at a level higher than or equal to younger participants, as determined by the usual tests of statistical significance. As noted earlier (Chapter 1, Section 1.7), the basis for this prediction is that older participants grew up in an environment where Jejueo was more commonly heard than in the world of younger participants, reflecting the steady decline in the use of the language since the 1950s. Thus, as noted in chapter 2 (section

1.6), my hypothesis is that proficiency in Jejueo reflects the amount of exposure to the language that one has had, especially during childhood.

I have collected a very substantial amount of data on the details of development in Jejueo, much of which involves details that will require further study before they can be interpreted, but which I will nonetheless report in appendices (Appendix 6 – Appendix 9). I will focus here on addressing the following questions, which are the ones that are most central to my study and to an understanding of the general level of proficiency in Jejueo associated with different cohorts on Jeju Island.

1. Does success on the Jejueo test increase with age (amount of early exposure to the language)?
2. Is there a difference in the success of the participants on the vocabulary and verbal pattern tests?
3. Is there a difference in their success on different lexical domains and lexical items in the vocabulary task?
4. Is there a difference in their success on different verbal patterns?
5. Is there variation in the performance of individual participants on verbal patterns?

The first question bears directly on my hypothesis that age is correlated with the opportunity to hear and learn Jejueo, consistent with the observation that use of the language has been in sharp decline in recent decades. Questions 2 through 4 consider the finer details of the participants' knowledge of the language by first examining contrasts in their success on

vocabulary versus verbal patterns, and then going a step further by investigating their performance on specific classes of lexical items and particular patterns of verbal morphology.

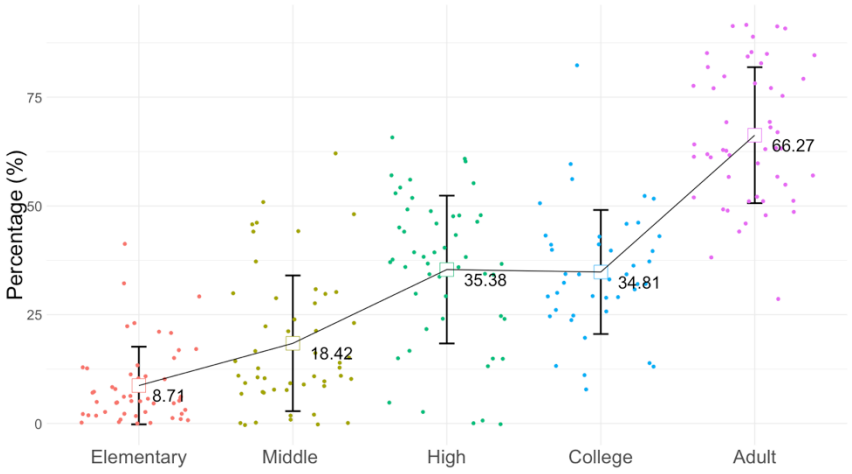
The answers to these questions can be expected to have significant diagnostic value in my future work on language revitalization. Finally, Question 5 opens the door to what may well turn out to be the most important issue of all in future years--the possibility that some younger participants are more proficient than others because of factors related to their upbringing and early language use.

5.3.1 Does success on the Jejueo test increase with age?

The total mean percentage scores for each group were computed by adding all the scores for each of the sub-tasks, dividing that number by the total number of items in all tasks and multiplying by 100. The result confirms that success rates significantly increased by age.

Figure 5.1 below summarizes the distribution of percentage scores on the full Jejueo test for each individual and participant group. As depicted, the Elementary School group showed the poorest accuracy rate (M = 8.71, SD = 8.93). The rate increased for the Middle School participants (M = 18.42, SD = 15.59), and again for the High School (M = 35.48, SD = 16.99) and College (M = 34.81, SD = 14.26) groups, whose overall scores were almost identical. The Adult participants exhibited the highest level of success (M = 66.27, SD = 15.63).

Figure 5.1. Distribution of percentage scores on the Jejueo test by group



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

A Kruskal-Wallis H test[28] revealed that the effect of age was significant (H =155.36, p < .001). A post hoc analysis with Wilcoxon signed-rank tests was conducted with a BH (Benjamini and Hochberg), p-value adjusted method, applied to test pairwise comparisons. The results indicated that the scores for all pairs of groups were significantly different (p < .001) except for the pair consisting of the College and High School groups (p = .394).

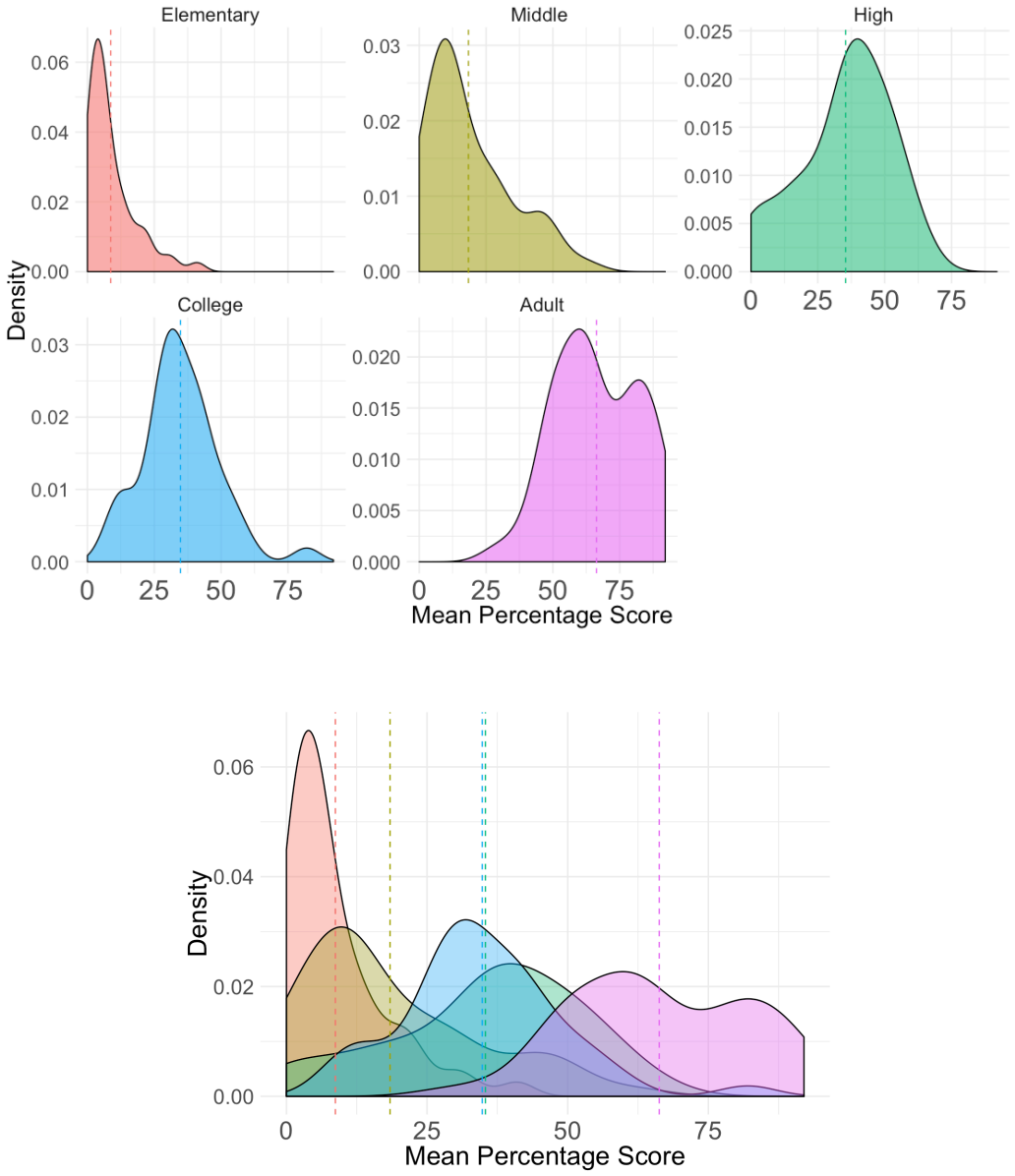
Figure 5.2 depicts the distribution of the percentage scores for each group, with the peaks indicating the highest density for the particular individual percentage scores marked on the horizontal axis. The results support the following generalizations.

[28] The Kruskal-Wallis H test (also called a one-way ANOVA on ranks) was conducted because the data set failed to meet the assumptions for a one-way ANOVA. Those assumptions were checked with QQ plots accompanying a Shapiro Test for normality of residuals, and Leven's test for homogeneity of variances. The results indicated that the distribution of residuals for each group was skewed and that homogeneity (equality) of variances was violated (see Appendix 5 for results). The Kruskal-Wallis test is a non-parametric alternative to a one-way ANOVA test which extends the two-sample Wilcoxon test in a situation where there are more than two groups. It is recommended when the assumptions of one-way ANOVA test are not met.

- A majority of the Elementary School participants had scores beneath 10%.
- Although the Middle School group's scores are widely dispersed, the right-skewed distribution indicates that the mean and the median are less than the mode.[29] A majority of the Middle School participants scored less than 25%.
- The High School and College groups show an almost identical distribution of the scores. The peak of each group indicates that a majority of the participants scored around 30%.
- The distribution of the Adult scores is widely dispersed with a left-skewed distribution, which means that the mean and the median are greater than the mode. A majority of the adult participants scored 60%.

[29] In this current study, *mean* refers to the average of the sum of the all percentage scores divided by the number of observations; *median* refers to the middle percentage score in the list of all percentage scores observed; *mode* refers to most frequent percentage score among observations.

Figure 5.2. Density plot for the distribution of the percentage scores for all five groups

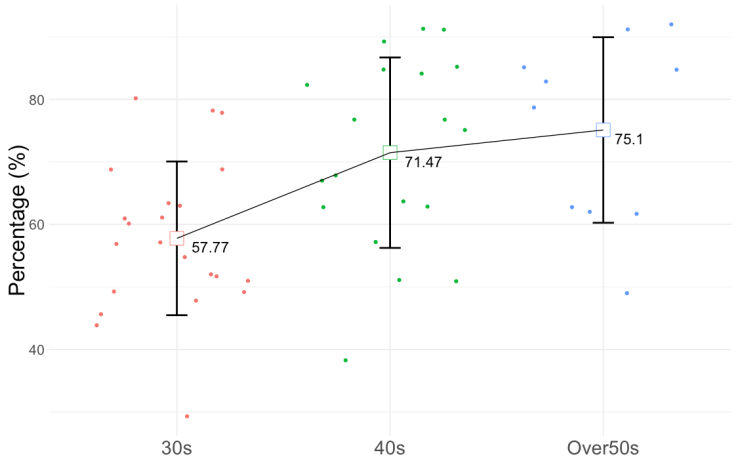


When the adult group was sub divided into more specific age groups (30s, 40s, and over 50s), an increase in mean percentage scores by age was also observed (see Table 5.4 and Figure 5.3 below). [30]

Table 5.4. Descriptive statistics of the Jejueo test for the adult sub-groups (n=51)

Group	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
30s	22	57.77	57	12.29	29	80	2.62	52.32	63.22
40s	19	71.47	75	15.23	38	91	3.49	64.13	78.81
Over 50s	10	75.10	81	14.84	49	92	4.69	64.48	85.72

Figure 5.3. Distribution of percentage scores of the adult sub-groups on the Jejueo test



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

[30] The participant with the lowest score in each the three sub-groups (30s, 40s, and over 50s) was further investigated with a focus on his/her language use, family language use, and educational background. The participant who had the lowest score (29%) in the youngest sub-group was born in 1983 (35 years old) and graduated from university. Although her parents and grandparents are from Jeju Island, her parents and siblings speak/spoke to her in Korean, and she herself speaks/spoke to her family and friends in that language. Furthermore, she lived outside of Jeju Island from 2012 to 2014.

The participant who scored the lowest (38%) in the middle sub-group was born in 1969 (49 years old). She has never lived outside of Jeu Island and her parents and grandparents were from there. Her highest education was high school. She reported that her family members, including her grandparents, all spoke to her in Korean and that she herself speaks/spoke to her family and friends in Korean.

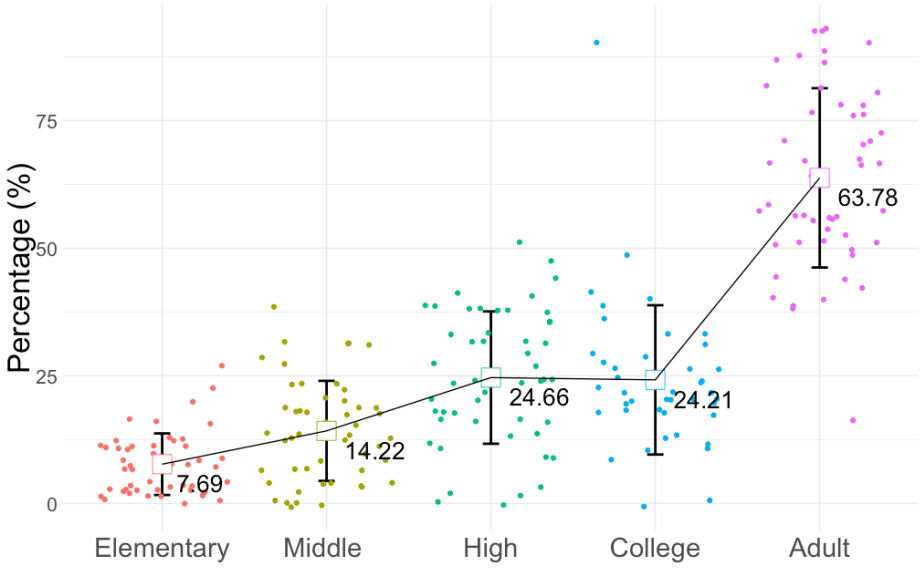
The participant with the lowest score (49%) in the oldest sub-group was a retired professor who had a high educational background (graduate school). He was born in 1951 (67 years old) and never lived outside of Jeju Island. His parents and grandparents were from Jeju Island and speak/spoke to him in Jejueo.

All of these three participants speak/spoke to their children in Korean and they believed that Korean is the most important language when making new friends, looking for a good job, getting a good education and making money.

5.3.2 Is there a difference in the success of the participants on the vocabulary and verbal pattern tests?

The knowledge of Jejeuo vocabulary was measured in 7 domains (body terms, household goods, nature terms, action verbs, animal names, descriptive verbs, food names, and kinship terms). A Kruskal-Wallis test (one-way ANOVA on ranks) revealed that the age effect was significant ($H = 722.82$, $p < .001$). A post hoc analysis with Wilcoxon signed-rank test (adjusted using the BH) confirmed that there was a significant difference between all pairs of groups except for the High School and College groups ($p = .55$).

Figure 5.4. Distribution of percentage scores on the vocabulary task by group

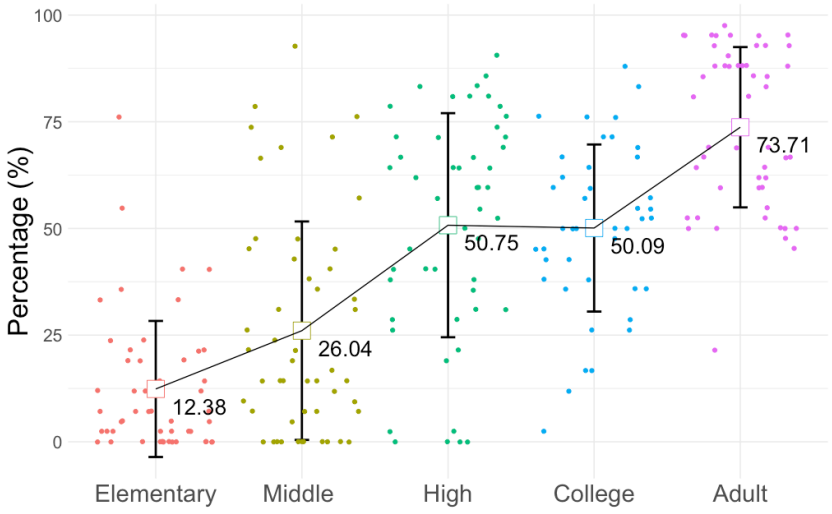


Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

The ability to produce verbal patterns was tested in three main types of conditions—Tense, Aspect and Modality (TAM), Question Formation, and Deference. The results for these tasks revealed an overall age-related upward trend in mean percentage scores (see Figure 5.5)

A Kruskal-Wallis test (one-way ANOVA on ranks) revealed that the age effect was significant (H = 388.47, $p < .001$). A post hoc analysis with Wilcoxon signed-rank test (adjusted using the BH) confirmed that there was a significant difference in scores between all pairs of groups except for the College and High School groups ($p = .618$).

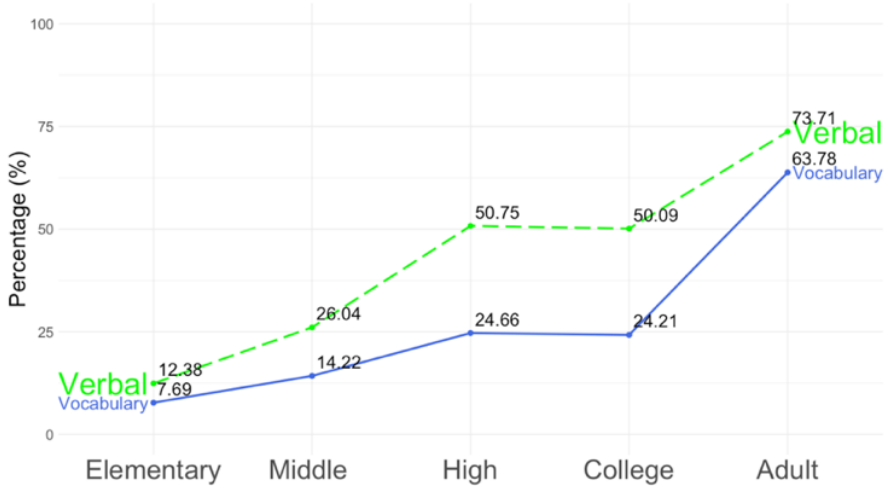
Figure 5.5. Distribution of percentage scores on the Jejueo verbal pattern test by group



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

The success curve for the vocabulary and verbal pattern components of the Jejuo test is similar to the overall trend: a steady increase until high school, and a leveling off in college followed by a sharp increase between the College and Adult groups. As illustrated in Figure 5.6, however, all groups showed a greater ability to produce the target verbal patterns than the target vocabulary items, with the difference largest in the High School and College groups (see Appendix 6 for the full descriptive statistics). A Wilcoxon signed rank test (a non-parametric paired t-test) confirmed the significant difference; $p < .001$.

Figure 5.6. Distribution of mean percentage scores on verbal patterns and vocabulary



The importance of vocabulary acquisition in the field of second language studies has been emphasized by a group of researchers (Alderson, 2005; Cart and McCarthy 2014; Cobb, 2007; Lufer and Nation, 1999; O'Grady and Choo, 2001; Schmitt and Schmitt, 2014). Although vocabulary knowledge is often perceived as a simple subskill of language ability, recent studies have shown that the vocabulary size is correlated with overall language proficiency. Hacking and Tschirner (2017) suggest that a minimum level of vocabulary is associated with different levels of reading proficiency, and Alderson (2005, p.88) has demonstrated that vocabulary level can be a predictor for language proficiency in both reading and grammar. Stæhr (2008) showed a correlation between vocabulary size and reading, writing and listening.

Based on these findings, a Spearman's rank-order correlation was run to assess the relationship between the scores on the vocabulary test and the scores on the verbal patterns tasks in Jejueo. Table 5.5 documents a weak to strong positive relationship between success on the vocabulary task and on the verbal pattern tasks in the younger groups (Elementary School, Middle School, and High School). The correlation was weaker in the older groups (College and Adult), which indicates that there is a weak or no relationship between success on the vocabulary task and

on the verbal pattern tasks. However, when all the groups were considered, there was a strong statistically significant positive correlation between scores on the vocabulary test and the verbal pattern tasks.

Table 5.5. A correlation matrix between scores on the vocabulary task and the verbal pattern tasks by age group and by all groups

Verbal Patterns	Elementary School	Middle School	High School	College	Adult	All
Present Continuative	0.362*	0.418 **	0.354***	0.219	0.219	0.668**
Past Continuative	0.314*	0.497***	0.222	-0.069	0.368*	0.483**
Perfective	0.384**	0.527***	0.261*	0.108	-0.129	0.665**
Prospective	0.112	0.261*	0.213	0.336 *	0.320*	0.440**
Question	0.216*	0.305*	0.471***	0.145	0.217*	0.534**
Deference	0.271*	0.462***	0.531***	0.428*	0.201*	0.705**

Note. * P < 0.05 ** P < 0.01 *** P < 0.001

5.3.3 Is there a difference in the success of the participants on different lexical domains and lexical items?

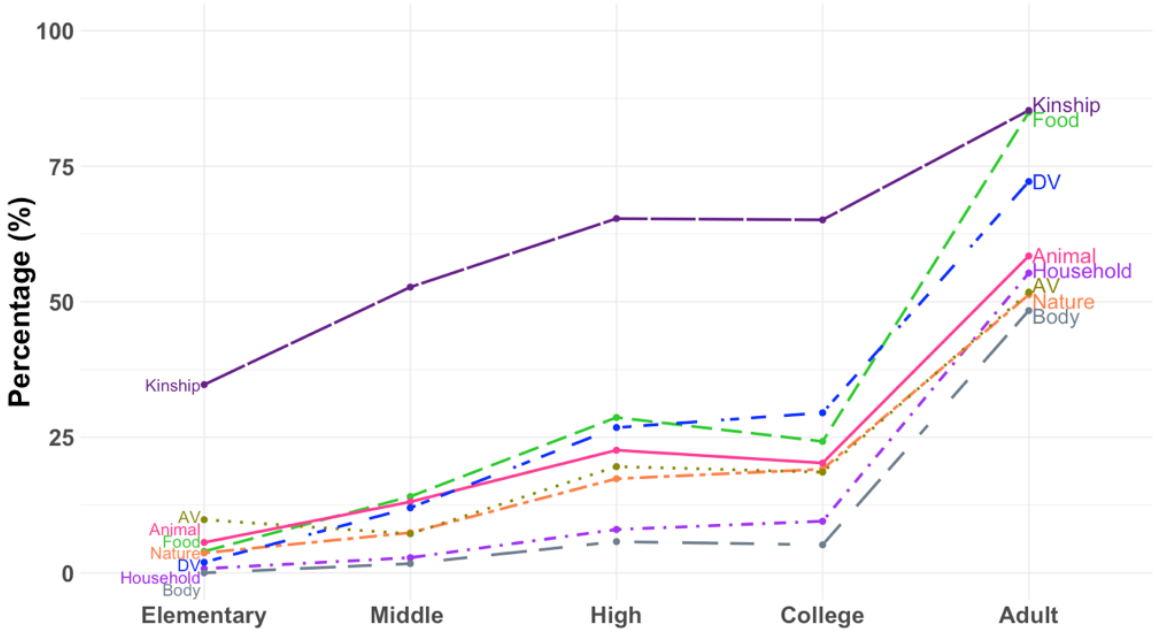
As indicated in Figure 5.7 and Table 5.6, Kinship Terms were produced most successfully across age groups (60.63%), followed by Food Terms (31.51%), Descriptive Verbs (28.52%), Animal Names (24.20%), Action Verbs (21.56%), Nature Words (19.85%), Household Goods Terms (15.57%) and Body Parts Terms (12.53%), on which even the Adult group performed relatively poorly (48.37%).

A Kruskal-Wallis test (one-way ANOVA on ranks) revealed that the age effect was significant (H = 330.32, $p < .001$ and that the scores for all the pairs of lexical domains were significantly different except for five pairs: Animal Names and Action Verbs ($p = .68$), Descriptive Verbs and Animal Names ($p = .48$), Food Names and Animal Names ($p = .47$), Food

Names and Descriptive Verbs (p = .63), and terms for Household Goods and Body Terms (p = .15).

These results indicate not only very limited vocabulary knowledge among the younger groups. It is also possible to infer lexical attrition among the adults who performed poorly on test items involving basic objects and concepts, whose names would have been commonly used at the time at which they were growing up.[31]

Figure 5.7. Mean percentage scores on the vocabulary task by group



Note. DV= Descriptive Verbs; AV = Action Verbs

[31] Nonetheless, the occurrence of attrition cannot be determined with certainty at this time, since we have no direct evidence that the participants learned the lexical items as children.

Table 5.6. Mean percentage scores for semantic domains by group

	Body	HG	Nature	AV	Animal	DV	Food	Kinship
Elementary	0	0.78	3.67	9.8	5.61	1.96	3.96	34.71
Middle	1.7	2.8	7.4	7.2	13.1	12	14.08	52.7
High	5.76	8	17.36	19.6	22.62	26.8	28.66	65.34
College	5.17	9.52	19.12	18.57	20.26	29.52	24.24	65.1
Adult	48.37	55.29	51.29	51.76	58.45	72.16	84.92	85.29
Average	12.53	15.57	19.85	21.56	24.20	28.52	31.51	60.48

Note. HG=Household Goods; AV = Action Verbs; DV= Descriptive Verbs (See Appendix 6 for more descriptive statistics).

Table 5.7 lists the vocabulary items (by domain and by group) on which the proportion of correct responses was above .50. An examination of the kinship domain is particularly instructive, since it clearly exemplifies the cross-generational decline of Jejueo. Whereas the words for 'grandfather' and 'grandmother' were successfully produced by all generations, the words for 'mother' and 'father' were not used at all by participants in the Elementary School group.[32] In addition, the words for older sibling and younger sibling were not produced by anyone in the three younger groups (High School, Middle School, and Elementary School).

[32] These kinship terms are more commonly these days used to refer family members rather than to directly address them. One elderly consultant reports that she used to address her mother as *eomeong* 'mother' and her father as *abang* 'father' (Kim, personal communication, July 17, 2016). The Jejueo terms were used as vocatives in some areas up until the 1980s. However, another elderly consultant (Kang, personal communication, July 17, 2016) argued that people who were so called *Yangban* 'high ranking class' would not call their parents *eomeng*, and *abang,* preferring the Korean terms *eomeoni* (*eomeonim*)*, abaji (abanim*), were used even in the 1940s and 1950s. She considered the Jejueo words for mother and father extremely rude and uneducated. Her comments reflect the influence of the hierarchical class system prevalent on the mainland during the Joseon era, during which Confucianism was imposed on Jeju Island. The mainland civil servants and governors who were ruling the province began to suppress Jeju local rituals and culture, even banning women divers because of their thin cotton clothing.

Table 5.7. Individual Jejueo vocabulary items that were successfully produced by all five groups[33]

	Body	HG	Nature	AV	Animal	DV	Food	Kinship
Elementary	None	None	None	None	None	None	None	grandfather, grandmother
Middle	None	None	None	None	pig	None	None	grandfather, grandmother, father, mother
High	None	None	sea	None	pig, cat	None	potato	gradfather, grandmother, father, mother
College	None	None	sea	None	pig	None	None	grandfather, grandmother, father, mother,
Adult	bone, neck	scissors, needle, broom	tree, sea, sand	throw, see	pig, cat, mouse	black, white, short small	octopus, gastropod (sea snail), potato, egg, crab, radish	grandfather, grandmother, father, mother, older sibling, younger sibling

Note. HG=Household Goods; AV = Action Verbs; DV= Descriptive Verbs.

While participants in the Adult group were able to produce at least some items in each of the eight domains (Kinship, Nature, Descriptive Verb, Food, Animal, Body Parts, Action Verbs, Household Goods), the participants from the younger groups were less successful. Indeed, the only vocabulary items other than certain kinship terms produced by participants in the Middle School, High School, and College groups were *badang* 'sea', *jiseul* 'potato', *dosegi* 'pig', and *gonengi* 'cat'.

Fewer than 50% of the adult participants produced each of the following words: *sanggoji* 'rainbow', *gojang* 'flower,' *teyeog* 'grass', *gawlgaebi* 'frog,' *malchug* 'grasshopper,' *mundeulida* 'drop,' *swette* 'key,' *dugji* 'shoulder,' *yangi/naws* 'face,' *jilda* 'long,' *dawgmawlawb* 'knee,' *geyeomji* 'ant,' *se* 'tongue,' *simda* 'hold,' *gawsda* 'cut,' and *chalong* 'basket.' These items also showed a lower rate of success in the younger groups, which suggests that they will soon be lost from the language.

[33] See the entire proportion correct value table in Appendix 7.

5.3.4 Is there a difference in the success of the participants on different verbal patterns?

After the observation of a group-related upward trend in performance on verbal patterns, another analysis was carried out to investigate differences among the results of individual tasks.

A non-parametric Friedman test was conducted, yielding a Chi-square value of 234.11 ($p < .001$) and indicating that the participants' scores were significantly different. A post hoc analysis with Wilcoxon signed-rank test (adjusted using the BH) confirmed that there was a significant difference between the average mean percentage scores on all pairs of tasks except between the Perfective and the Present Continuative ($p = .58$) (see Appendix 5 for the full pairwise comparisons).

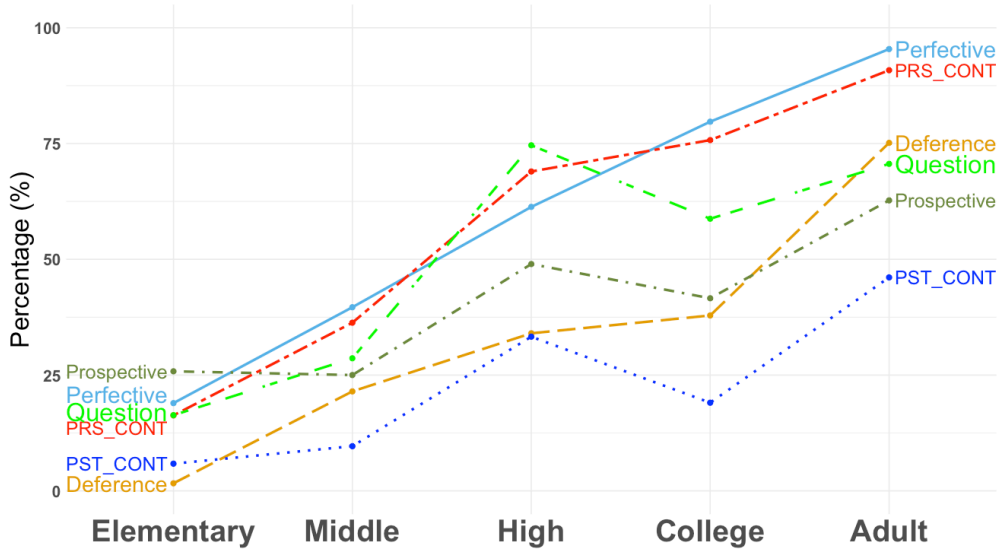
The overall performance rank order can be summarized as follows:

Perfective=Present Continuative> Question>Prospective>Deference> Past Continuative

Note.
1) ">" indicates a significantly higher score
2) "=" indicates that the absence of a statistically significant difference

Although a high level of success on the Present Continuative and Perfective patterns and a low rate of success for the Past Continuative are stable across all five groups of participants, there is variation from group to group with regards to relative success on the Deference, Prospective and Question Formation tasks, as depicted in Figure 5.8 (see Appendix 6 for more descriptive statistics).

Figure 5.8. Mean percent scores on individual verbal conditions by group



The statistically significant contrasts in performance on the various tasks within each group can be summarized as follows.

Adult:
Perfective=Present Continuative>Deference=Question> Prospective> Past Continuative

College:
Perfective=Present Continuative> Question > Prospective=Deference>Past Continuative

High:
Question=Present Continuative=Perfective> Prospective> Deference/Past Continuative

Middle:
Perfective=Present Continuative = Question =Prospective
Present Continuative = Question =Prospective=Deference>Past Continuative

Elementary:
Prospective= Perfective=Question=Present Continuative>Past Continuative=Deference

1) ">" indicates a significantly higher score
2) "=" indicates the absence of a statistically significant difference

In other words, where there are significant asymmetries in performance, they tend to favor the Perfective and the Present Continuative patterns and to disfavor the Past Continuative.

In sum, the principal finding that emerges from the results discussed above is the presence of an overall group-level age effect in the ability to use Jejueo: older groups did better than younger on both vocabulary and verbal patterns. Some other observations are as follows.

- All age groups showed relatively more ability to produce the Perfective and the Present Continuative patterns.
- All age groups had difficulty producing the Past Continuative patterns.
- Non-adult speakers (Elementary School, Middle School, High School, and College groups) showed particular difficulty in the production of the Deference patterns compared to the Adult group.
- Younger speakers (Elementary School, High School, and College groups) performed better on the Prospective task than on the Deference task--the opposite of the contrast in the adult group.

5.3.5 Is there intra-group variation in the performance of individual participants on verbal patterns?

Finally, we turn to the question of how much individual variation occurs within each group of participants on the various tasks. This information can be gleaned from analyzing the frequency of particular percentage scores in each group. As can be seen in Table 5.8 and Table 5.9 , there is very substantial variation, as manifested both in the portion of participants who achieved particular scores on the test and in the standard deviations in their percentage scores (see also Figure 5.5 above).

Table 5.8. The number of individuals who fall within each score range on the Verbal pattern task (n=244)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	0	2	35	14	76.19
Middle school (n=50)	0	8	31	11	92.86
High school (n=50)	0	29	17	4	90.48
College (n=42)	0	17	25	0	88.10
Adult (n=51)	0	47	3	1	97.62
Total(n=244)	0	103	111	30	97.62

Table 5.9. Descriptive statistics of the verbal task by group (n=244)

Group	N	Mean	Median	SD	SE	Lower.CI	Upper.CI
Elementary	51	12.38	7.0	15.95	2.23	7.82	15.90
Middle	50	26.04	15.5	25.63	3.62	18.74	28.63
High	50	50.75	58.5	26.28	3.72	43.31	53.61
College	42	50.09	50.0	19.51	3.01	44.02	52.51
Adult	51	73.71	81.0	18.79	2.63	68.42	75.55

A further analysis investigated individual performance on particular patterns. The tables below summarize the number of individuals who fall within each score range on a particular task. As the distribution of the highest mean percentage score indicates, particular individuals from each group showed full mastery of particular verbal patterns, but there is a great deal of variation in the scores achieved within each group. Figures showing the means and standard deviations are available in Appendix 6.

Table 5.10. The Perfective task (n=244)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	2	8	9	32	100
Middle school (n=50)	10	12	8	20	100
High school (n=50)	15	20	7	8	100
College (n=42)	21	15	5	1	100
Adult (n=51)	43	7	1	0	100
Total(n=244)	91	62	30	61	100

Table 5.11. The Present Continuative task (n=244)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	1	6	10	34	100
Middle school (n=50)	8	12	9	21	100
High school (n=50)	17	21	8	4	100
College (n=42)	17	18	6	1	100
Adult (n=51)	37	12	2	0	100
Total(n=244)	80	69	35	60	100

Table 5.12. The Past Continuative task (n=244)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	2	1	2	46	100
Middle school (n=50)	1	5	2	42	100
High school (n=50)	8	10	6	26	100
College (n=42)	2	5	11	24	100
Adult (n=51)	9	18	8	16	100
Total(n=244)	22	39	29	154	100

Table 5.13. The Prospective task (n=244)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	15	23	7	6	100
Middle school (n=50)	5	10	7	28	100
High school (n=50)	14	12	8	16	100
College (n=42)	4	14	14	10	100
Adult (n=51)	15	23	7	6	100
Total(n=244)	53	82	43	66	100

Table 5.14. The *Yes/No* Question formation task (n=244)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	3	8	6	34	100
Middle school (n=50)	9	6	5	30	100
High school (n=50)	25	16	1	8	100
College (n=42)	10	20	4	8	100
Adult (n=51)	28	9	6	8	100
Total(n=244)	75	59	22	88	100

Table 5.15. The Deference task (n=244)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	0	0	4	47	41.67
Middle school (n=50)	0	11	9	39	91.67
High school (n=50)	4	17	8	25	100
College (n=42)	4	13	7	18	100
Adult (n=51)	24	18	7	2	100
Total(n=244)	32	59	35	131	100

As the results in the table make clear, some individuals in each group clearly outperform other members of their cohort. Chapter 6 will consider the factors that may have contributed to this sort of variation.

5.4 Conclusion

The overall picture that emerges of the development of Jejueo is grim. The youngest group of participants in this study (the Elementary School group) are on average ten years old and therefore well beyond the point by which the basic patterns of a language should have been mastered, as they are very close to the end of the commonly assumed 'critical period' for uninstructed language learning. Indeed, age 10 is beyond the point (age 4) that some scholars believe is the cut-off for easy naturalistic learning of morphology (Schwartz, 2004).

It is also worth noting, as reported in Chapter 4, that children of the same age and background as the youngest participants performed at or near the ceiling on the *Korean* version of the test, consistent with the claim that basic verbal patterns are acquired early. There is no reason to think that the children who took the Jejueo version of the test are going to somehow become substantially more fluent in the language as they grow older in an environment where

Jejueo is not commonly heard. They will therefore not be able to pass Jejueo on to their own children even if they wish to do so.

The developmental profile documented here is a classic example of language decline in progress. Each successive cohort of children acquires less of the language, thereby becoming less able to use it until, finally, it is no longer a viable tool for communication. If this trend is not reversed, Jejueo will disappear.

Chapter 6 Developmental Profile for English

This chapter reports the results of the English Test that was designed to diagnose the level of English proficiency across five cohorts and three generations. Following the organization of the preceding chapter, the first section describes the method that I used, including details related to the participants, the materials, the procedures and the scoring practices. The second section presents the results of the assessment test.

6.1 Method

6.1.1 Participants

The same Jeju Islanders who participated in the Jejueo test also took part in the English test, except for 20 adult participants who opted out of the latter test on the grounds that they did not know enough English to participate. The remaining participants consisted of 51 Elementary School students, 50 Middle School students, 50 High School students, 42 College students, and 31 Adults. As noted in the previous chapter, all had at least one parent from Jeju Island, had been born and raised on Jeju Island, and were residing there at the time of the test. School-age participants were attending schools in Jeju City.

All participants took part in a survey designed to gather information about their age, years of exposure to the language, place of residence, family composition, language attitudes, and education (see Appendix 3). Table 6.1 summarizes the number of participants in each group and their gender.

Table 6.1. Description of participant groups (n=224)

Participants	Elementary	Middle School	High School	College	Adult
Age	10	13	16	18-27	30-61
Male	22	22	19	17	13
Female	28	28	31	25	18
Total	51	50	50	42	31

6.1.2 Materials

The test that was developed to assess knowledge of English consisted of a total of 86 items, 6 fewer than the Jejueo test because the Jejeuo version of the Deference condition included patterns for which there is no English counterpart.

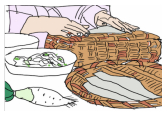
As in the case of the Jejueo test, the order of presentation of the tasks is as follows, with portions of the vocabulary test interspersed among the verbal morphology tasks that made up the rest of the test.

Table 6.2. Task presentation order in the English test

English
1) **Survey**
2) **Vocabulary**: kinship terms (6 tokens)
3) **Vocabulary**: nature words (6 tokens)
4) **Present Progressive**: (6 tokens)
5) **Vocabulary**: adjectives (6 tokens)
6) **Simple Past**: with regular verbs (3 tokens: pick, play, cook), and with irregular verbs (3 tokens: drink, build, catch)
7) **Vocabulary**: food names (6 tokens)
8) **Modality**: (6 tokens)
9) **Vocabulary**: animal names (6 tokens)
10**) Past progressive**: (6 tokens)
11) **Vocabulary**: body parts (6 tokens)
12) ***Yes/No* Question Formation**: sub-condition 1 with nouns (3 tokens), and sub-condition 2 with adjectives (3 tokens)
13) **Vocabulary**: action verbs (8 tokens)
14) **Deference**: requests (4 tokens) and offers (2 tokens)
15) **Vocabulary**: terms for household goods (6 tokens)
Total:86 items

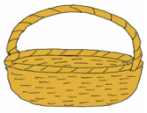
There were slight differences between the Jejueo and English vocabulary tests that reflected cultural and linguistic factors. One such difference involved the choice of English verbs with regular and irregular past tense forms, for which there is no equivalent contrast in Jejueo. Moreover, the choice of verbs for the Jejueo Perfective task had to consist of items that are phonetically distinct from their Korean counterparts (and, in many cases, non-cognates). Another difference involved using the words *shell* and *onion* in the English vocabulary test instead of *bomal* 'gastropod' and *nawmppi* 'radish,' which appeared in the Jejueo test.

Table 6.3. Target items that differed in Jejueo and English

Conditions	English	Jejueo
Perfective	#26 'drink' (irregular verb) 	#26 *mengeulda* 멩글다 'make' 
	#29 'play' (regular verb) 	#29 *bongeuda* 봉그다 'find (by accident)' 
Vocabulary	# 32 'shell', 	# 32 *bomal* 보말 'gastropod' 
	# 34 'onion' 	# 34 *nawmppi* 놈삐 'radish' 

There were also some culturally motivated differences in the pictures used to elicit the vocabulary items. For example, the English test included a picture of a girl picking flowers and a picture of man building a wall made of red bricks, whereas the corresponding Jejueo picture depicted the picking of tangerines and the building of a wall consisting of lava stone (see Table 6.4). In addition, as mentioned earlier in Chapter 3, a picture of a Western-style cake and a basket were used for English vocabulary items 40 and 84 whereas a traditional rice cake (*omegitteog*) and a traditional basket (*chalong*) appeared in the Jejueo test.

Table 6.4. Different pictures on the same target items

Conditions	**English**	**Jejueo**
Perfective	#25 'pick'  #28 'build' 	#25 *tada* 타다 'pick'  #28 *dam dauda* 담 다우다 'build' 
Prospective	# 40 'cake' 	#40 *omegitteog* 오메기떡 'a type of rice cake' 
Vocabulary	#84 'basket' 	#84 *chalong* 차롱 'basket' 

6.1.3 Procedure

As noted in the preceding chapter, the English test was administered on the same day as the Jejueo test. The two tests were presented one after another, with the order of administration randomly determined for each participant. A non-parametric independent t-test (Mann-Whitney U test) was conducted to compare differences in performance by test order. There was no significant effect on participants' accuracy with either the English-Jejueo order (M = 32.0, SD = 23) or the Jejueo-English order (M = 30.3, SD = 22.30); p = .5.

Participants were encouraged to answer all questions in each task. After completing the first test, they were asked to record the time they took. The maximum time set aside for the English test was one hour. All the participants finished within that time period and students who finished earlier than others were asked to quietly read books (which were not relevant to the target language) while awaiting the start of the second test.

As in the case of the Jejueo test, the English test for adult participants was administered either in their homes or in quiet places where two to five people could take the test together. The same procedure described above for the school-aged participants was used for the adult groups.

6.1.4 Independent rater

A native English speaker (from the USA) was recruited to help score the English responses. Before he started rating responses, he was asked to take the test so that he could be familiar with the task and the target responses.

The English rater was asked to score only the responses for the verbal morphology tasks. As in the case of the Jejueo test, this decision was made to help reduce the demand on the rater's time, allowing him to score the responses from all five age groups. Because scoring the vocabulary section was more straightforward, it was carried out solely by the researcher, who called upon the native-speaker rater only for unclear responses.

6.1.5 Scoring instrument

The raters used Excel files to score responses, which were classified employing a binary scoring system: 0 for non-target responses and 1 for target responses, as determined by the responses of the native speaker controls. In addition, language-specific scoring guidelines were used to

supplement the answer key (see Appendix 4). Only target grammatical features were assessed; other parts of the responses were not assessed or rated.

6.1.6 Inter-rater reliability

The agreement rate for the two raters was 96.1%. An inter-rater reliability analysis using the Kappa statistic was performed to determine consistency among raters, yielding Kappa = 0.941 ($p < .0001$), 95% CI, (0.939, 0.944).

6.2 Analysis

Statistical data analyses and visualizations were carried out in the R environment which is a free open-source software package (R version 3. 4. 4; R Core Team, 2013). Parametric analyses with an a priori alpha of 0.05 were planned for all group comparisons. In order to detect differences in groups with respect to multiple independent variables (Elementary School, Middle School, High School, College and Adult), a one-way ANOVA was planned. T-tests were planned as post-hoc measures after running the ANOVA. In addition, in order to compare differences involving multiple dependent variables, a repeated-measures ANOVA was planned.

When the data did not meet the parametric assumptions, the use of non-parametric alternatives was planned. If the data did not meet the assumptions of the one-way ANOVA, a Kruskal-Wallis H test was used to investigate independent group differences. The Kruskal Wallis test is a non-parametric alternative to one-way ANOVA test (Corder and Foreman, 2014; Sheskin, 2000) that is recommended when the assumptions of the one-way ANOVA test are not met. The Friedman test is a non-parametric alternative to the repeated-measures ANOVA (Corder and Foreman, 2014; Sheskin, 2000) that is recommended when the assumptions of the

repeated-measures ANOVA test are not met. It was used under these circumstances to investigate dependent group differences.

6.3 Results

In the next sections, I will report on the ability of the participants to produce target vocabulary items and verbal patterns that fall within the range of usage described in the literature on English and that were confirmed by the responses of the control group (see Chapter 4 and Appendix 2).

As in the discussion in the preceding chapter, I will principally focus on findings that relate to the major research question (Chapter 2, section 2.5), namely: 'What is the developmental profile for English?' I will therefore be primarily concerned with the success rates of each of my five cohorts both overall and in the seven individual conditions that make up my test.

My expectation was that knowledge of English will correlate with age, which is a proxy here for years of instruction in school (and hence amount of exposure to the language). Thus, all other things being equal, we expect older participants to perform at a level higher than or equal to younger participants, as determined by the significance of the statistical tests. However, as noted earlier (Chapter 2, Section 2.6), this prediction has to be tempered by the fact that older participants may have suffered from attrition, given the lack of opportunity to use English after finishing their education.

I will focus here on the same issues that guided my discussion of the Jejueo results in the preceding chapter, namely:

1. Does success on the English test increase with age (number of years of instruction)?
2. Is there a difference in the success of the participants on the vocabulary and verbal pattern tests?
3. Is there a difference in their success on different lexical domains and lexical items in the vocabulary task?
4. Is there a difference in their success on different verbal patterns?
5. Is there variation in the performance of individual participants on verbal patterns?

As noted in the previous chapter (Section 5.3), these questions allow us to address three central issues. Question 1 relates to the effect of the number of years of study on linguistic proficiency. Questions 2 through 4 bear on differences in proficiency with respect to particular components of the language, including even specific words and constructions. Question 5 allows us to identify variation in the performance of individual participants for which we may eventually be able to isolate correlated factors of various sorts.

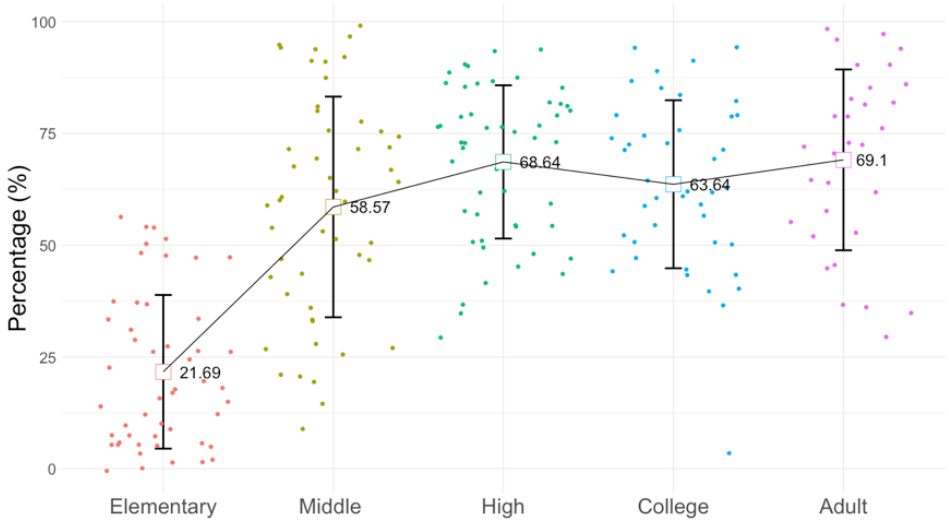
6.3.1 Does the performance on the English test increase with age?

The total mean percentage scores were computed by adding all the scores for each of the sub-tasks, and then dividing that number by the total number of items in all tasks and multiplying by 100. Figure 6.1 summarizes the distribution of percentage scores on the full English test for each individual and participant group.

As can be seen, there was a sharp increase in scores from elementary school to middle school, followed by a smaller increase between middle school and high school, after which performance plateaued. As depicted here, the Elementary School group showed the poorest accuracy rate (M = 21.69, SD = 17.19). The rate increased for the Middle School participants (M

= 58.57, *SD* = 24.70), and again for the High School participants (*M* = 68.64, *SD* = 17.14), but showed no improvement in the College group (*M* = 63.64., *SD* =18.80) or the Adult group (*M* = 69.10, *SD* = 20.22) (See Appendix 11 for a more complete set of descriptive statistics).

Figure 6.1. Distribution of percentage scores on the English test by group



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

A Kruskal-Wallis H test[34] was conducted on the scores for the Elementary School, Middle School and High School groups, as they were noticeably different from each other in Figure 6.1 The test revealed a statistical difference between the mean percentage scores of the three groups (H = 75.12, $p < .001$). A post hoc analysis with Wilcoxon signed-rank tests was conducted with a BH, p-value adjusted method, applied to test pairwise comparisons. All pairs of groups were

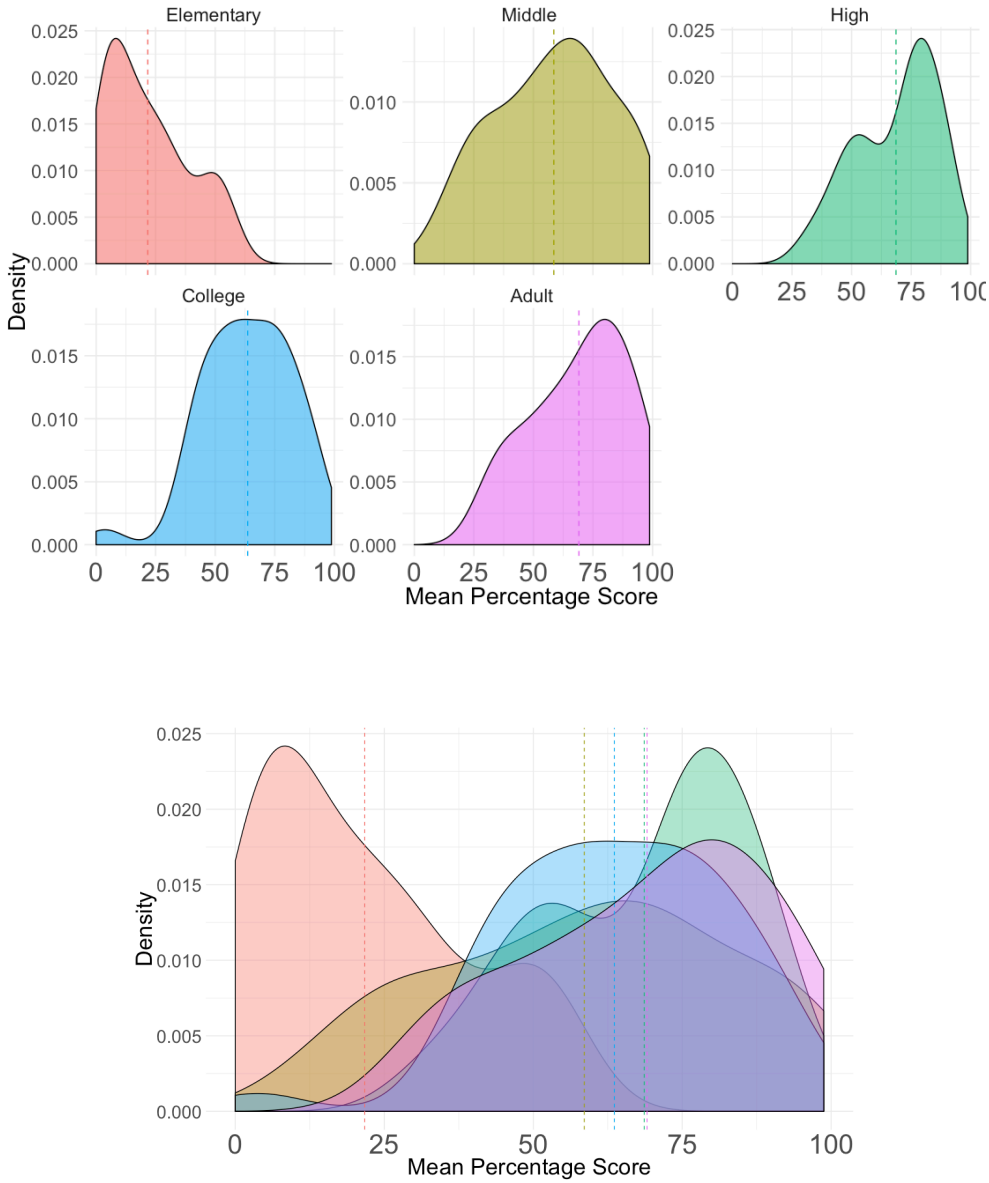
[34]A Kruskal-Wallis H test (also called One-way ANOVA on ranks) was conducted because the data set failed to meet the assumptions for one-way ANOVA. The assumptions of one-way ANOVA test were checked with QQ plots accompanying Shapiro Test for normality of residuals, and Leven's test for homogeneity of variances. The results indicated that the distribution of residuals for each group was skewed and homogeneity (equality) of variances were violated (See Appendix 10 for the results). The Kruskal Wallis test is a non-parametric alternative to a one-way ANOVA test, which extends the two-sample Wilcoxon test in a situation where there are more than two groups. It is recommended when the assumptions of the one-way ANOVA test are not met.

significantly different in their scores (Elementary School, Middle School and High School groups at $p < .001$; Middle School and High School group at $p < .05$).

In addition, Figure 6.2 depicts the distribution of the percentage scores for each group, with the peaks indicating the highest density for the particular individual percentage scores marked on the horizontal axis. The results support the following generalizations.

- A majority of the Elementary School participants had percentage scores beneath 25%.
- All four other older groups performed relatively uniformly in comparison with a relatively similar distribution of individual percentage scores across the groups.
- The peak of the High School group indicated the highest performance in the English test when compared with other groups.

Figure 6.2. Density plot for the distribution of the percentage scores for all five groups

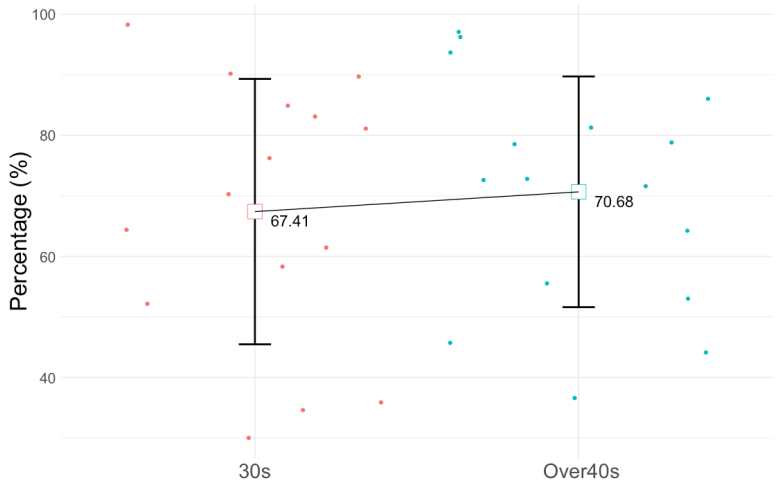


In addition, when the adult group was sub divided into more specific age groups (30s and over 40s), the difference in mean percentage scores between the 30s and 40s was minimal (see Table 6.5 and Figure 6.3 below).

Table 6.5. Descriptive statistics of the English test for the adult sub-groups

Group	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
30s	15	67.41	70.37	21.93	29.63	98.77	5.66	55.27	79.55
Over40s	16	70.68	72.84	19.06	37.04	97.53	4.77	60.52	80.84

Figure 6.3. Distribution of percentage scores of the adult sub-groups on the English test



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

6.3.2 Is there a difference in the success of the participants on the vocabulary and verbal pattern tests?

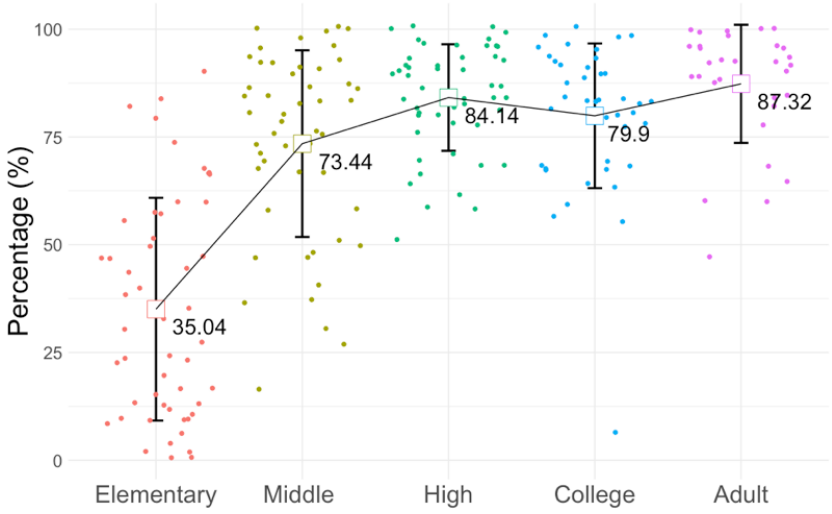
The knowledge of English vocabulary was measured on 7 domains (Body Terms, Household Goods, Nature Terms, Action Verbs, Animal Names, Adjectives, Food Names, and Kinship Terms). The vocabulary test results revealed that the Elementary School participants produced target vocabulary items at a significantly lower rate than all other groups.[35] All participants from

[35] Five English vocabulary items were removed from the analysis because the corresponding Jejueo words had to be eliminated for the reasons discussed in Chapter 5, section 5.1.2

the older groups were able to produce common lexical tokens across different domains.

A Kruskal-Wallis test (one-way ANOVA on ranks) revealed that the differences among average mean percentage scores were significant across lexical domains (H = 485.64 , $p < .001$). A post hoc analysis with Wilcoxon signed-rank test was conducted (adjusted using the BH) and the results confirmed significant differences among groups except for the pair consisting of High School and Adult participants ($p = .64$).

Figure 6.4. Distribution of percentage scores on the vocabulary task by group



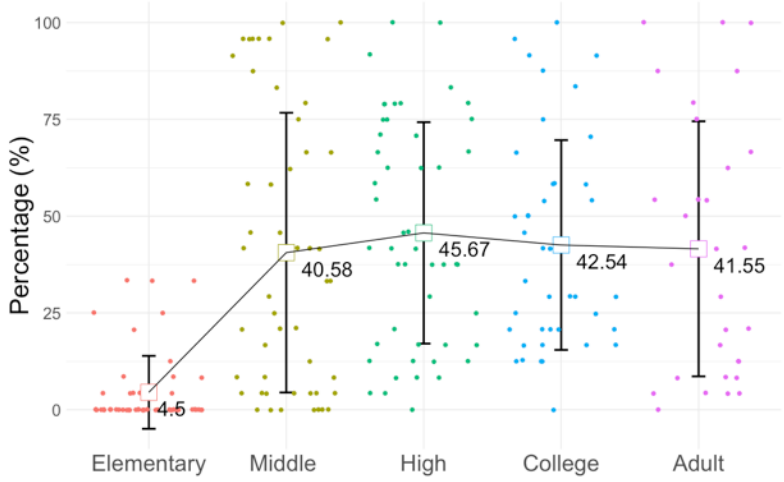
Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

The ability to produce verbal patterns was tested in three main conditions— Tense, Aspect and Modality (TAM), Question Formation and Deference. The results for these tasks revealed an overall upward trend by age in mean percentage scores (see Figure 6.5).

A Kruskal-Wallis test revealed that the age effect was significant (H = 84.202, $p < .001$). A post hoc analysis with Wilcoxon signed-rank test was conducted (adjusted using the BH),

confirming that there was a significant difference only between the Elementary School group and the other groups ($p < .001$) (see Appendix 11 for the full pairwise comparisons).

Figure 6.5. Distribution of percentage scores on verbal pattern tasks by group

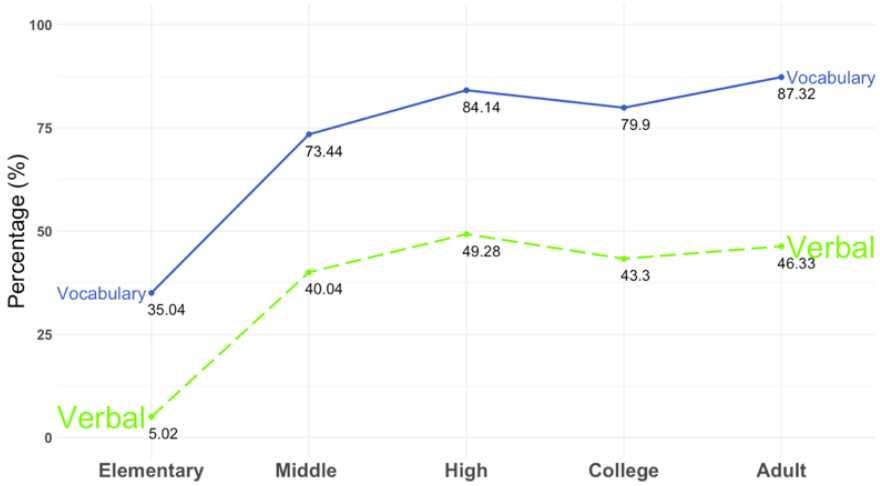


Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

The developmental curve for the vocabulary and verbal pattern components of the English test is similar to the overall trend: a dramatic increase between elementary school and middle school, followed by a more modest increase between middle school and high school, with a leveling off for older groups. After high school, the trend remains flat (see Appendix 11 for the full descriptive statistics).

Figure 6.6 provides a direct answer to the question of whether participants do better on the vocabulary portion of the text: they do.

Figure 6.6. Distribution of mean percentage scores verbal patterns and vocabulary



As can be seen here, the plateau attained by the older age groups on the verbal patterns was relatively low (50%) compared to vocabulary, which was above 75%. A Wilcoxon signed rank test (a non-parametric paired t-test) confirmed the significant difference ($p < .001$). As noted in the previous chapter, the reverse contrast was found for Jejueo.

Based on the finding that vocabulary knowledge correlates with other types of proficiency (see the preceding chapter), a Spearman's rank-order correlation was run to assess the relationship between the scores on the vocabulary test and the scores on the verbal patterns tasks in English. As illustrated in Table 6.6, there were weak to strong positive correlations between success on the vocabulary test and on the verbal pattern test across all age groups. In addition, there was a moderate positive correlation, which was statistically significant, when all the groups were considered.

Table 6.6. A correlation matrix between scores on the vocabulary task and the verbal pattern tasks

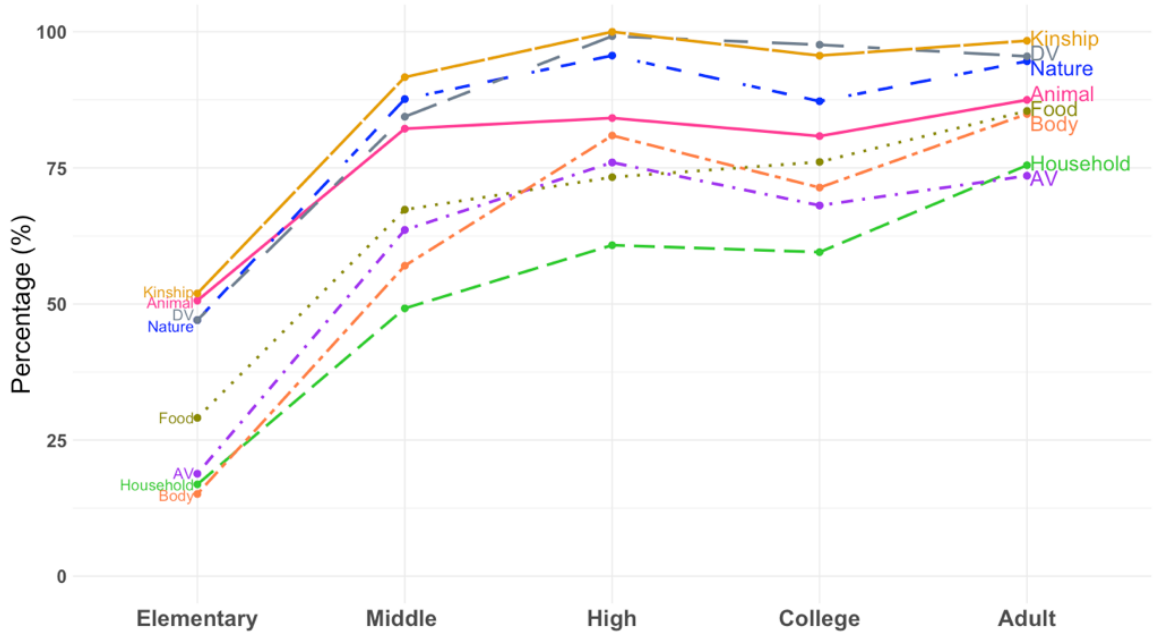
Verbal Patterns	Elementary School	Middle School	High School	College	Adult	All
Present Progressive	0.553 ***	0.702***	0.399**	0.344*	0.610**	0.667 **
Past Progressive	0.455**	0.495***	0.285*	0.360*	0.561**	0.549**
Past Tense	0.200*	0.536***	0.508***	0.661***	0.622**	0.646**
Modality	0.231*	0.622***	0.433**	0.466**	0.646**	0.577**
Question	0.347*	0.560***	0.571***	0.537**	0.589***	0.660**
Deference	0.449***	0.583***	0.426***	0.467**	0.645***	0.693**

Note. * P < 0.05** P < 0.01 *** P < 0.001

6.3.3 Is there a difference in the success of the participant on different lexical domains and lexical items?

As indicated in Figure 6.7, Kinship Terms were produced most successfully across the age groups (M = 87.51, SD = 28.92), followed by Adjectives (M = 84.75, SD = 32.32), Nature Words (M = 82.43, SD = 28.32), Animal Names (M = 77.06, SD = 25.61), Food Terms (M = 66.25, SD = 33.79), Body Parts (M = 61.87, SD = 37.46), Action Verbs (M = 60.01, SD = 35.35), and terms for Household Goods (M = 52.37, SD = 33.19).

Figure 6.7. Mean percentage scores on the vocabulary task by group



A Kruskal-Wallis test (one-way ANOVA on ranks) revealed that the differences among average mean percentage scores were significant across lexical domains (H = 317.81, $p < .001$). A post hoc analysis with Wilcoxon signed-rank test (adjusted using the BH) confirmed that all pairs of lexical domains were significantly different except for the pair consisting of Action Verbs and Body Terms ($p = .364$), Food Terms and the Body Terms ($p = .364$), and Adjectives and Kinship Terms ($p = .226$).

Table 6.7. Distribution of overall mean percentage scores on individual lexical domains

	Household	AV	Body	Food	Animal	Nature	DV	Kinship
Elementary	16.86	18.82	15.1	29.08	50.63	47.04	47.06	51.94
Middle	49.2	63.6	57.02	67.32	82.2	87.64	84.4	91.66
High	60.8	76	80.94	73.3	84.16	95.64	99.2	100
College	59.52	68.1	71.38	76.1	80.83	87.24	97.62	95.62
Adult	75.48	73.55	84.9	85.45	87.48	94.58	95.48	98.35
Average	50.00	58.39	59.37	64.10	75.92	81.07	83.21	86.15

Table 6.8 lists the vocabulary items (by domain and by group) on which over 50% of the participants produced the target items correctly. Except for the Elementary School group, participants from all four other groups were able to produce most of the vocabulary items successfully— a reflection of the content of the English-language curriculum. Individual group findings are summarized below.

Table 6.8. Successfully produced English vocabulary items by 50 % of the participants in each group[36]

	Body	HG	Nature	AV	Animal	Adj.	Food	Kinship
Elementary	None	key	tree, sea	None	ant, pig, cat	long, small	egg,	father, mother
Middle	shoulder, knee, bone, neck, face	scissors, key	tree, flower, rainbow, see, grass, land	throw/ toss cut, see, drop	cat, mouse, pig, frog, ant	black, white, short, long, small,	octopus, shell, crab, onion, egg, potato	grandfather, grandmother, father, mother brother, sister
High	shoulder, tongue, knee, bone, neck, face	scissors, basket, key	tree, flower, rainbow, see, grass, land	throw/ toss, cut, hold, see, drop	cat, mouse, pig, frog, ant	black, white, short, long, small	octopus, crab, onion, egg, potato	grandfather, grandmother, father, mother brother, sister
College	shoulder, knee, bone, neck, face	scissors, needle, basket, key	tree, flower, rainbow, see, grass, land	throw/ toss, cut, see, drop	cat, mouse, pig, frog, ant	black, white, short, long, small	octopus, crab, onion, egg, potato	grandfather, grandmother, father, mother brother, sister
Adult	shoulder, tongue, knee, bone, neck, face	scissors, needle, broom, basket, key	tree, flower, rainbow, see, grass, land	throw/ toss, cut, hold, see, drop	cat, mouse, pig, frog, ant	black, white, short, long, small	octopus, shell, crab, onion, egg, potato	grandfather, grandmother, father, mother brother, sister

Note. HG = Household Goods; AV = Action verbs; Adj. = Adjectives.

[36] See the entire proportion correct (also known as item facility) table for individual verbal pattern task items table in Appendix 12.

The one item that all five groups were not able to produce with a success rate of at least 50% was *grasshopper*. The Middle School to College groups also had difficulty producing the words *needle*, *broom*, *basket*, *tongue*, *shell*, and *hold*.

6.3.4 Is there a difference in the success of the participants on different verbal patterns?

After the observation of an age-related upward trend in overall performance, a further analysis was carried out to investigate whether participants performed better on any particular verbal patterns compared to others. In contrast to what was found for the Jejueo results, only the High School group showed a significant difference in performance on the different verbal pattern tasks, with the rank order below:

High school
Question=Present Progressive>Deference=Past Progressive=Past Tense=Modality

1) ">" indicates a significantly higher score
2) "=" indicates the absence of a statistically significant score

6.3.5 Is there intra-group variation in the performance of individual participants on verbal patterns?

Finally, we turn to the question of how much individual variation occurs within each group of participants on the various tasks. The relevant information can be gleaned by analyzing the frequency of particular mean percentage scores in each group. As can be seen in Table 6.9 none of the participants showed full mastery of the target verbal patterns in English, but there was very substantial variation in how much success individuals attained on the test. As shown in

Table 6.10, this variation is also evident in the standard deviations underlying the mean scores (also, see Table 6.4 above).

Table 6.9. The number of individuals who fall within each score range on the Verbal pattern task (n=224)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	0	0	18	33	38.89
Middle school (n=50)	0	19	24	7	97.22
High school (n=50)	0	26	23	1	91.67
College (n=42)	0	16	25	1	94.44
Adult (n=31)	0	14	16	1	97.22
Total (n=224)	0	75	106	43	97.22

Table 6.10. Descriptive statistics of the verbal pattern production task by group

Group	N	Mean	Median	SD	SE	Lower.CI	Upper.CI
Elementary	51	5.02	0	9.87	1.38	2.24	7.80
Middle	50	40.06	36	32.95	4.66	30.69	49.40
High	50	49.30	50	26.69	3.77	41.71	56.86
College	42	43.31	36	25.72	3.97	35.29	51.32
Adult	31	46.26	44	31.47	5.65	34.72	57.88

A further analysis investigated whether any individuals showed mastery of individual patterns. Table 6.11 through Table 6.16 summarize the frequency of individual mean percentage scores for each verbal pattern task. As the distribution of the highest mean percentage score indicates, except for the Elementary School group, particular individuals from each group showed full mastery of each verbal pattern. These results indicate that some individual English learners have acquired the target patterns fully, while others manifest only partial mastery even after many years of schooling.

Table 6.11. The Past Tense (n=224)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	0	1	1	48	50
Middle school (n=50)	7	15	5	23	100
High school (n=50)	9	15	8	18	100
College (n=42)	4	19	11	8	100
Adult (n=31)	7	5	7	12	100
Total(n=224)	27	55	32	109	100

Table 6.12. The Present Progressive (n=224)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	0	4	8	39	83
Middle school (n=50)	13	13	12	12	100
High school (n=50)	17	17	12	4	100
College (n=42)	6	16	12	8	100
Adult (n=31)	7	10	7	7	100
Total(n=224)	43	60	51	70	100

Table 6.13. The Past Progressive (n=224)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	1	5	2	43	100
Middle school (n=50)	13	7	6	25	100
High school (n=50)	10	13	11	16	100
College (n=42)	8	10	9	15	100
Adult (n=31)	7	6	3	15	100
Total (n=224)	39	41	31	114	100

Table 6.14. The Modality (n=224)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	0	0	1	50	16.67
Middle school (n=50)	9	11	5	25	100
High school (n=50)	13	6	5	26	100
College (n=42)	4	10	7	21	100
Adult (n=31)	8	3	1	19	100
Total(n=224)	34	30	19	141	100

Table 6.15. The *Yes/No* Question (n=224)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	0	1	6	44	83.33
Middle school (n=50)	13	12	1	24	100
High school (n=50)	26	9	4	11	100
College (n=42)	12	9	4	17	100
Adult (n=31)	15	4	1	11	100
Total(n=224)	66	35	16	107	100

Table 6.16. The Deference (n=224)

Group	100	99-50	49-1	Zero	Highest individual percentage score
Elementary (n=51)	0	0	10	41	33.33
Middle school (n=50)	0	23	6	21	83.33
High school (n=50)	0	30	13	7	83.33
College (n=42)	0	26	6	10	83.33
Adult (n=31)	3	19	3	6	100
Total (n=224)	3	98	98	85	100

6.4 Conclusion

In sum, the principal finding that emerges from the results discussed in this chapter is the presence of an age effect in the ability of the Jeju participants to use English. The most significant burst of progress took place between elementary school and middle school. A second but smaller and non-significant advance occurred between middle school and high school. By college, however, progress has ceased. Some other observations are as follows:

- Performance on vocabulary items exceeds performance on verbal patterns.
- Performance on *Yes/No* Questions and the Present Progressive is superior to performance on the Deference, Modal, Past Progressive, and Past Tense patterns in the High School group.
- All other groups showed no statistical difference in their performance on the target verbal patterns.

The following chapter will consider the factors that may have contributed to the participants' performance on the Jejueo and English tests.

Chapter 7 Knowledge of Language

As noted at the outset (Chapter 2), the goal of this dissertation is to compare knowledge of two languages that are important to the linguistic ecology of Jeju Island–Jejueo, which is acquired (to varying degrees) in naturalistic settings, and English, which is learned through instruction in school. A third language, Korean, was used as a baseline since it is the first and most dominant language of the participants and can, therefore, be expected to have been fully acquired by even the youngest of my test groups, whose mean age was 10.

The design of my study called for the test participants to be assessed for their knowledge of English and Jejueo with the help of written production tasks that focused on vocabulary and comparable grammatical patterns in the two languages. Table 7.1 and Table 7.2 summarize the target vocabulary items and verbal patterns.

Table 7.1. A summary of the target vocabulary items: Korean, Jejueo, and English

Domain	**Korean (46 tokens)**	**Jejueo (46 tokens)**	**English (46 tokens)**
Kinship terms (6 tokens)	*halabeoji* 할아버지 *halmeoni* 할머니 *appa/abeoji* 아빠/아버지 *eomma/eomeoni* 엄마/어머니 *hyeong* 형 *(yeo)dongseng* (여)동생	*haleubang* 하르방 *halmang* 할망 *abang* 아방 *eomeong* 어멍 *seong* 성 'older brother' *asi* 아시 'younger sibling' (*nui* 누이 'younger sister')	*grandfather* *grandmother* *father* *mother* *(older) brother* *(younger) sister*
Nature words (6 tokens)	*namu* 나무 *kkoch* 꽃 *mujigae* 무지개 *bada* 바다 *jandi* 잔디 *molae* 모래	*nang* 낭 *gojang* 고장 *sanggoji* 상고지 *badang* 바당 *teyeog* 테역 *mosal* 모살	*tree* *flower* *rainbow* *sea* *grass* *sand*
Animal names (6 tokens)	*goyangi* 고양이 *jwi* 쥐 *dwaeji* 돼지 *mettugi* 메뚜기 *gaeguli* 개구리 *gaemi* 개미	*gonengi* 고넹이 *jwingi* 쥥이 *dosegi* 도세기 *malchug* 말축 *gawlgaebi* 골개비 *geyeomji* 게염지	*cat* *mouse* *pig* *grasshopper* *frog* *ant*

Domain	Korean (46 tokens)	Jejueo (46 tokens)	English (46 tokens)
Food terms (6 tokens)	*muneo* 문어 *godong* 고동 *ge* 게 *mu* 무 *dalgyal* 달걀 *gamja* 감자	*mulkkuleog/mungge* 물꾸럭/뭉게 *bomal* 보말 'gastropod' *gingi* 깅이 *nawmppi* 놈삐 *dawgsegi* 독세기 *jisil/jiseul* 지실/지슬	*octopus* *shell* *crab* *onion* *egg* *potato*
Descriptive Verbs (Jejueo)/ Adjectives (English) (5 tokens)	*geomda* 검다 *huida* 희다 *jjalbda* 짧다 *gilda* 길다 *jagda* 작다	*geomeonghawda* 거멍ᄒᆞ다 *heoyeonghawda* 허영ᄒᆞ다 *jjawlleuda* 쫄르다 *jilda* 질다 *jogda* 족다	*black* *white* *short* *long* *small*
Body parts (6 tokens)	*eokkae* 어깨 *hyeo* 혀 *muleup* 무릎 *ppyeo* 뼈 *mog* 목 *eolgul* 얼굴	*dugji* 둑지 *se* 세 *dawgmawlawb* 독ᄆᆞ릅 *kkwang* 꽝 *yagaegi/mogaji* 야개기/모가지 *yangi/naws* 양지/놋	*shoulder* *tongue* *knee* *bone* *neck* *face*
Household terms (6 tokens)	*gawi* 가위 *baneul* 바늘 *bisjalu* 빗자루 *baguni* 바구니 *yeolsoe* 열쇠	*gawse* ᄀᆞ세 *banong* 바농 *bichilag* 비치락 *chalong* 차롱 *swette* 쉐떼	*scissors* *needle* *broom* *basket* *key*
Action words (5 tokens)	*deonjida* 던지다 *jaleuda* 자르다 *jabda* 잡다 *boda* 보다 *tteoleotteulida* 떨어뜨리다 *dadda* 닫다	*dekkida* 데끼다 *gawsda* 긋다 *simda* 심다 *belida* 베리다 *mundeulida* 문드리다 d*eokkeuda* 더끄다	*throw/toss* *cut* *hold* *see* *drop* *close*

Table 7.2. A summary of the target verbal patterns: Korean, Jejueo, and English

Pattern	Korean (42 tokens)	Jejueo (42 tokens)	English (36 tokens)
Ongoing events (6)	*Ul-**go iss**-eo* 울고 있어 cry-CON be-SE '(She) is crying'	*Ul-**eoms**-jeo.* 울엇저 cry-CONT-SE '(She) is crying.'	*She **is crying.***
Completed events (6)	*Gogi jab-**ass**-eo.* fish catch-PFV-SE 고기 잡았어. '(He) caught a fish.'	*Gwegi nakk-**as**-jeo.* fish catch-PFV-SE 궤기 낚앗저 '(He) caught a fish.'	*He **caught** a fish.* *She **boiled** eggs.*
Conjectured Events (6)	*Meog-**gess**-ji.* 먹겠지 eat-PROSP-SE '(He) will eat'	*Meog-**euk**-yeo.* 먹으켜 eat-PROSP-SE '(He) will eat.'	*He **will eat** the cake.* *He **is going to eat** the cake.*

Pattern	**Korean (42 tokens)**	**Jejueo (42 tokens)**	**English (36 tokens)**
Ongoing events in the past (6)	*Cheg ilg-**go** **iss-eoss**-eo.* book read-CON be-PFV-SE 책 읽고 있었어. '(She) was reading a book'	*Cheg ig-**eoms-eon**.* book read-CONT-PFV.SE 쳌 익엄언 '(She) was reading a book.'	*She **was reading** a book.*
Yes/No Questions (6)	*Nongbu-**ni**?* 농부니? farmer-SE '(Is he) a farmer?	*Nongbani-**ga**?* 농바니가? farmer-SE '(Is he) a farmer?	***Is he** a farmer?*
Deference Jejueo (12) English (6)	*Dalli-**go** **iss-eoyo.*** run-CON be-SE 달리고 있어요. '(She) is running.' *Jag-**ayo*** 작아요 small-AH.SE '(It is) small.'	*Dawl-**ams-u**-da* run-CONT-AH-SE 돌앎우다 '(She) is running.' *Jog-**su**-da.* 족수다 small-AH-SE '(It is) small.'	***Would you turn** the volume down?* ***Would you like** some cake?*

A separate group of elementary-school participants took an equivalent test only in Korean to ensure that the methodology was appropriate for eliciting the types of vocabulary items and verbal patterns that I had targeted. I expected a very high level of performance on the Korean test and, as reported previously, this was in fact the case. As is typical with elicited production tasks, of course, one does not expect a 100% success rate at eliciting the target construction. However, there were few errors in the constructions that were produced, and that there were no signs of influence from any other language.

I will now compare the results from the Jejueo and English tests, with the help of a series of graphs that depict the performance of the various groups on the various tasks in each language. The first graph, for the Elementary School group, also includes the results for the Korean test.

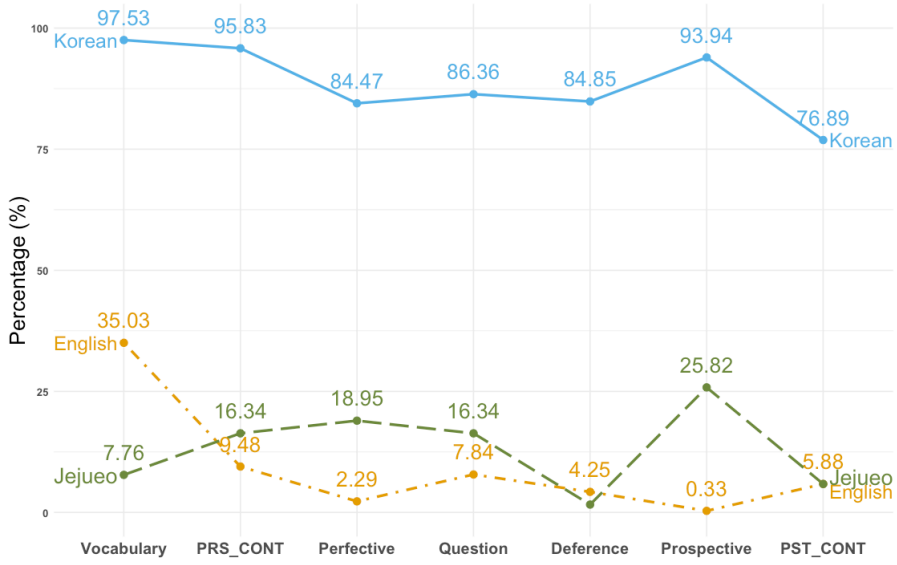
7.1 Group variations

1) Elementary School Group

It is obvious that the dominant language of the participants in the Elementary School group is Korean. As depicted in Figure 7.1, proficiency in both Jejueo and English is well below the proficiency level for Korean.

In addition, a paired-samples Wilcoxon test (also known as a Wilcoxon signed-rank test) indicated a significant difference between English and Jejueo on the Perfective, Prospective, and Vocabulary tasks ($p < .001$). Overall, the Elementary School children did significantly better on the Perfective and Prospective tasks in Jejueo than in English. In contrast, the children did better in English than in Jejueo on the Vocabulary task.

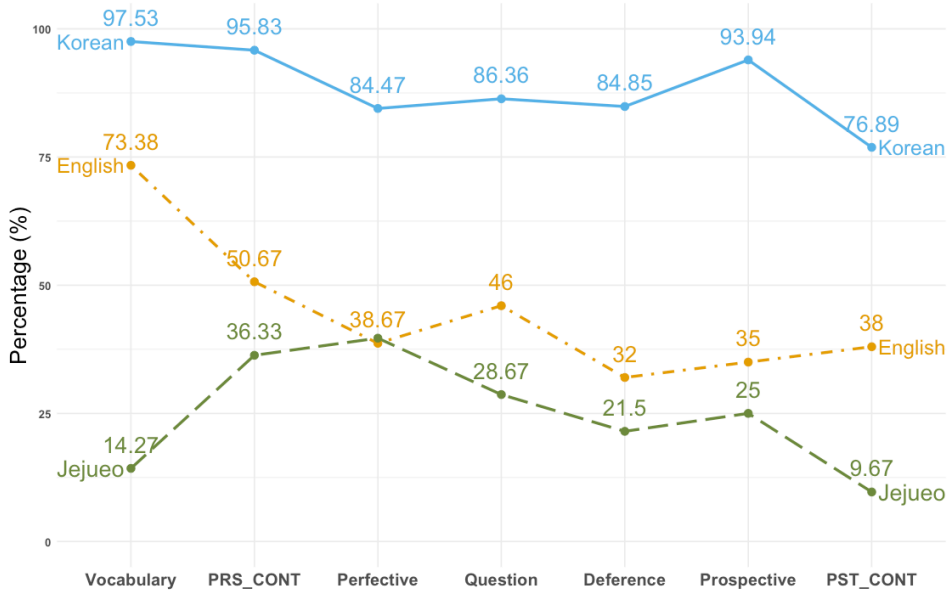
Figure 7.1. Average mean percentage scores of the Elementary group on Jejueo, English, and Korean test by condition



2) Middle School Group

The performance of the Middle School group marked a major turning point in the developmental profiles for both English and Jejueo. Here, surprisingly, we find a significant advantage for English over Jejueo, with an especially large advantage in the area of vocabulary. This dramatic asymmetry underlines the decline of Jejueo. The end result is that proficiency among the Middle School participants is lower in their heritage language than in English, which is taught only a few hours a week in school and in private tutoring institutions, with a little or no opportunity for naturalistic use.

Figure 7.2. Average mean percentage scores of the middle school group on the Jejueo and English tests



A paired-samples Wilcoxon test (also known as a Wilcoxon signed-rank Test) was conducted on the Deference, Prospective, Question Formation, Past Continuative, and Present Continuative tasks. The results indicated a significant difference between English and Jejueo

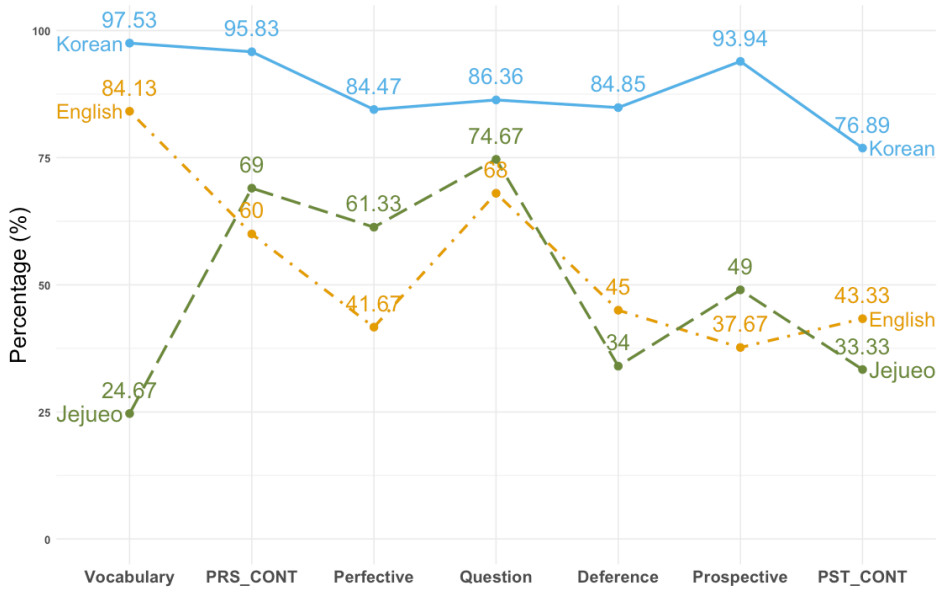
($p < .001$). Overall, the Middle School children did significantly better on the Deference, Prospective, Question Formation, Past Continuative, Present Continuative, and Vocabulary tasks in English than in Jejueo.

3) High School Group

The performance of the High School group is also highly revealing, allowing us to see two important developmental trends.

First, there is an even greater vocabulary advantage for English compared to Jejueo than was observed in the Middle School participants. Second, the difference between proficiency on verbal patterns for Jejueo and English narrows to some degree. This appears to reflect two factors: the plateauing of English proficiency at the High School level and the likelihood that the participants had greater exposure to Jejueo in their childhood than their Elementary School and Middle School counterparts.

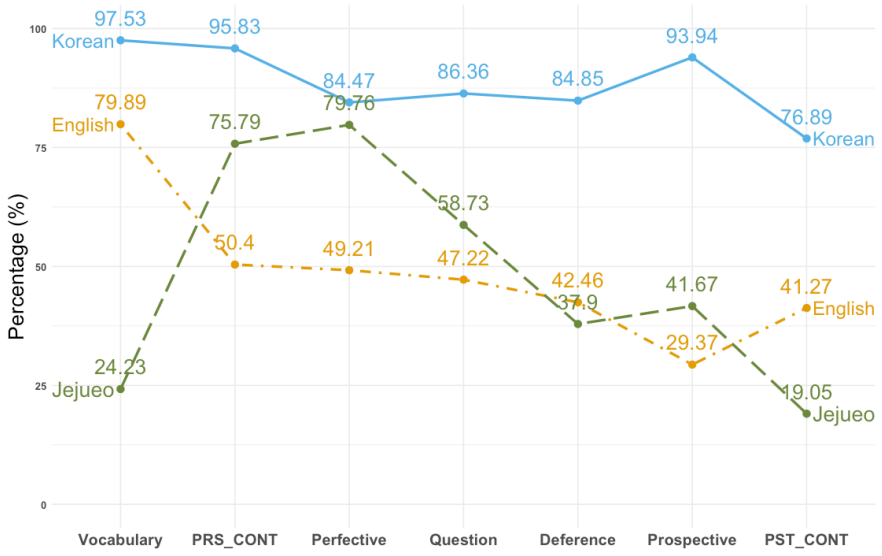
Figure 7.3. Average mean percentage scores of the high school group



4) College Group

The proficiency levels in Jejueo and English among the College participants remain significantly lower than for Korean, except in the case of the Question Formation task, where there is parity. The gap between Jejueo and English remains substantial for lexical proficiency, but becomes narrower on the verbal patterns. This pattern of results appears to continue the trend observed in the High School group, presumably reflecting the continued plateauing of English proficiency together with the increased proficiency on Jejueo that one would expect among older participants, whose age ranged from 18 to 27.

Figure 7.4. Average mean percentage scores of the high school group on the Jejueo and English

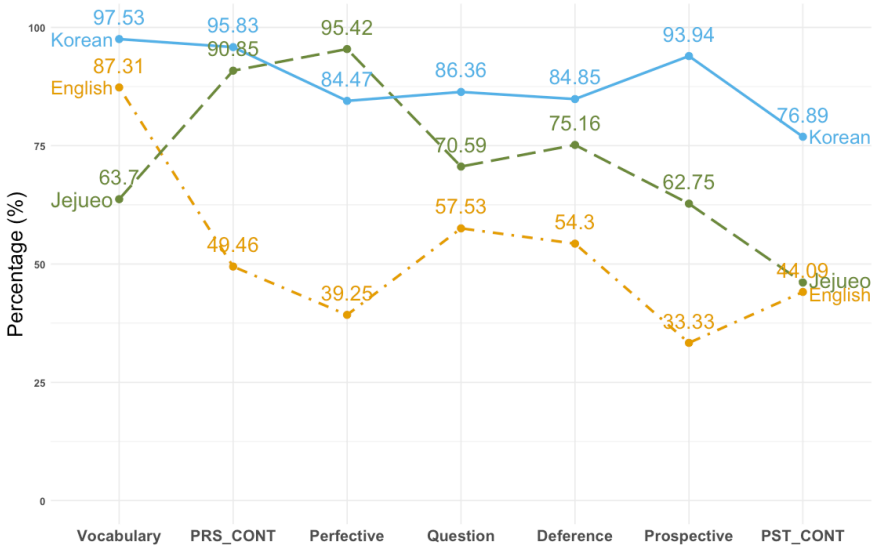


5) Adult Group

Compared to younger participants, the Adult group maintained a relatively high proficiency level in Jejueo, with particularly good performance on the Question Formation, Present Continuative

and Perfective tasks. Nonetheless, the group's performance was far from perfect, with low rates of success (comparable to those for English) on the Past Continuative, Prospective, and Deference tasks, as well as on the Vocabulary task. These shortfalls may reflect the composition of the Adult group, 80% of whom were in their 30s and 40s and had therefore grown up in the late 1980s and early 1990s after the decline of Jejueo had begun.

Figure 7.5. A comparison between the average mean percentage scores of the adult group on the English and Jejueo tests and the average mean percentage scores of the Elementary group on the Korean test



7.2 Additional Questions

We are now in a position to answer a number of additional questions and issues.

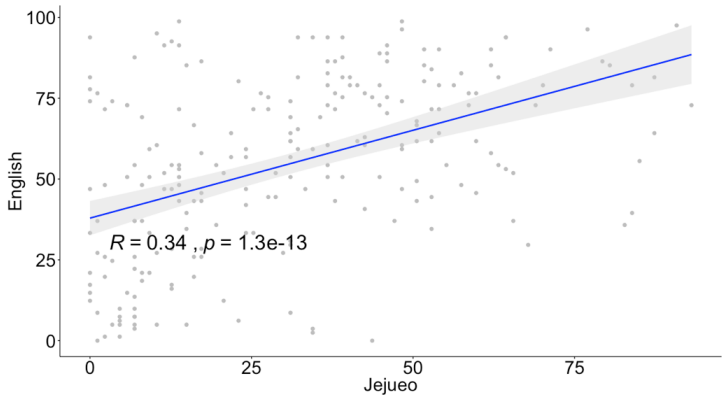
7.2.1 Does knowledge of Jejueo impede the acquisition of English?

Parents who speak a minority language often express concern that using their language at home will interfere with their children's ability to learn other languages in school (Paradis, 2011). In the case of Jeju Island, concern has been expressed that attention to Jejueo might diminish children's

chances of learning an important third language like English. However, my data indicates a remarkable tendency in the opposite direction: there is a *positive* correlation between success on the Jejueo task and success on the English test.

A Kendall's tau rank correlation was run to determine the relationship between Jejueo proficiency and English proficiency among the 224 participants. The results indicated that there was a moderate positive correlation between the two proficiency levels, which was statistically significant (r (223) = .34, p < .0001).

Figure 7.6. Correlation between Jejueo and English performance (n=224)



This finding is consistent with previous findings by other researchers for other languages. A number of empirical studies argue that bilingualism facilitates L3 acquisition (Klein, 1995; McLaughlin and Nayak, 1989; Molnár ,2011; Sanz, 2000). Klein (1995) and Molnár (2011) reported that bilingual participants learned more lexical items than their monolingual counterparts. Sanz (2000) found that their Spanish/Catalan bilingual participants performed better on the vocabulary and structure sections of the CELT English Proficiency test than did monolingual Spanish-speaking participants.

7.2.2 Is there a Jejueo Input Effect on Jejueo and English performance?

A survey that I conducted in conjunction with my assessment tests provides the opportunity to investigate the relationship between language use at home with performance on Jejueo and English.

In the survey, which was carried out on the same day as the language testing, the participants were asked to indicate the language that their family members most frequently use(d) when speaking to them. The four options were Jejueo, Korean, English and Other.[37] The question was asked in relation to the speech practices of four types of family members: mother, father, siblings, and grandparents. An actual question from the survey is provided below:

- In which language does/did your mother speak to you most frequently? Choose only one language.
  1) Jejueo, 2) Korean, 3) English, 4) Others

The results indicated that the participants whose family members use(d) Jejueo to them performed better on Jejueo (and on English) than other members of their cohort. This positive effect of Jejueo input on language performance is not surprising, of course, since it is well known that input is a crucial factor in the development of bilingualism (e.g., Pearson et al., 1997, Hoff et al., 2012; Thordardottir, 2015, among many others).

Table 7.3 through Table 7.7 summarize the overall mean percentage scores for participants on the Jejueo and English language tests along with the language practice of each relevant family member. A non-parametric independent-samples t-test (Mann-Whitney U test) that was conducted

[37] Participants were asked to choose the one language that was used most frequently by their family members to estimate the amount of the language input indirectly. This method was adopted from the survey questionnaire developed by Rentz (2018).

to compare differences in performance revealed that all contrasts based on language choice by family members (parents, siblings, grandparents) were significant.

Table 7.3. Mother's dominant language use and participants' performance (n=224)

Mother's language	Jejueo performance		English performance	
	Mean (p<.001)	SD	Mean (p<.01)	SD
Jejueo	49.57	23.91	62.33	23.07
Korean	22.92	19.07	51.80	27.86

Table 7.4. Father's dominant language use and participants' performance (n=224)

Father's language	Jejueo performance		English performance	
	Mean (p<.001)	SD	Mean (p<.05)	SD
Jejueo	46.95	24.40	61.44	23.08
Korean	23.70	20.04	51.40	27.94

Table 7.5. Siblings' dominant language use and participants' performance (n=224)

Sibling's language	Jejueo performance		English performance	
	Mean (p<.001)	SD	Mean (p<.05)	SD
Jejueo	63.87	20.70	63.87	20.70
Korean	52.56	28.07	52.56	28.07

Table 7.6. Maternal grandmother's dominant language use and performance (n=224)

Grandmother's language	Jejueo performance		English performance	
	Mean (p<.001)	SD	Mean (p<.05)	SD
Jejueo	60.77	24.26	58.57	25.22
Korean	48.56	27.61	47.99	29.56

Table 7.7. Maternal grandfather's dominant language use and performance (n=224)

Grandfather's language	Jejueo performance		English performance	
	Mean (p<.001)	SD	Mean (p<.01)	SD
Jejueo	41.12	25.03	60.77	24.26
Korean	22.82	19.76	48.56	27.61

7.2.3 Does participants' language choice affect their performance?

In the survey, the participants were also asked to choose which language they use most frequently in speaking to other Jeju Islanders, to their families and to other relatives. The results indicate that participants who used Jejueo most frequently performed better on Jejueo and even on English (extending the finding noted in Section 7.2.1). A non-parametric independent-samples t-test (Mann-Whitney U test) that was conducted to compare differences in performance revealed that all contrasts were significant.

Table 7.8. Participants' language use and performance (n=224)

Participants' language	Jejueo performance		English performance	
	Mean (p<.001)	SD	Mean (p<.05)	SD
Jejueo	48.20	23.03	61.26	24.08
Korean	26.68	22.15	53.81	27.43

7.2.4 Does participants' gender effect their performance?

As can be seen in Table 7.9 and Table 7.10, female participants performed better than male participants (Jejueo: 35.33 (Female) versus 29.41 (Male); English: 58.72 (Female) versus 49.69 (Male)) on both the Jejueo and English tests. A non-parametric independent-samples t-test (Mann-Whitney U test) indicated a significant difference in the scores of female and male participants on both tests (Jejueo: $p < .05$; English: $p <. 05$).

Table 7.9. Performance on the Jejueo test by all groups (n=244)

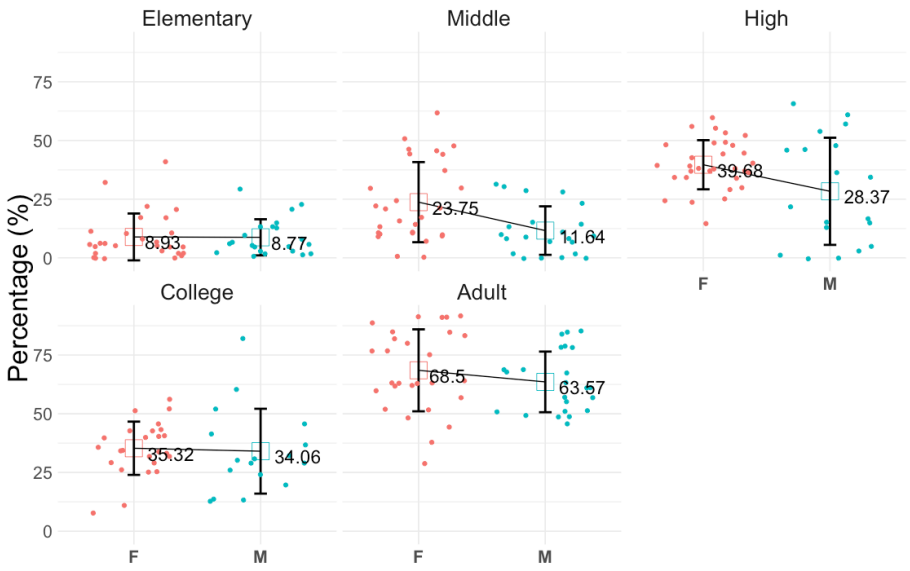
Gender	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Female	140	35.33	35	23.96	0	92	2.03	31.33	39.33
Male	104	29.41	23	25.30	0	85	2.49	24.47	34.35

Table 7.10. Performance on the English test by all groups (n=224)

Gender	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Female	130	58.72	61.11	26.34	0.00	98.77	2.31	54.15	63.29
Male	94	49.69	50.62	26.98	1.23	98.77	2.80	44.13	55.25

It is important to note, however, that the gender effect was limited to a single group of participants in each language. A statistically significant effect was found only in the Middle School group ($p < .01$) on the Jejueo test.[38]

Figure 7.7. Gender difference in performance on the Jejueo test by group



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

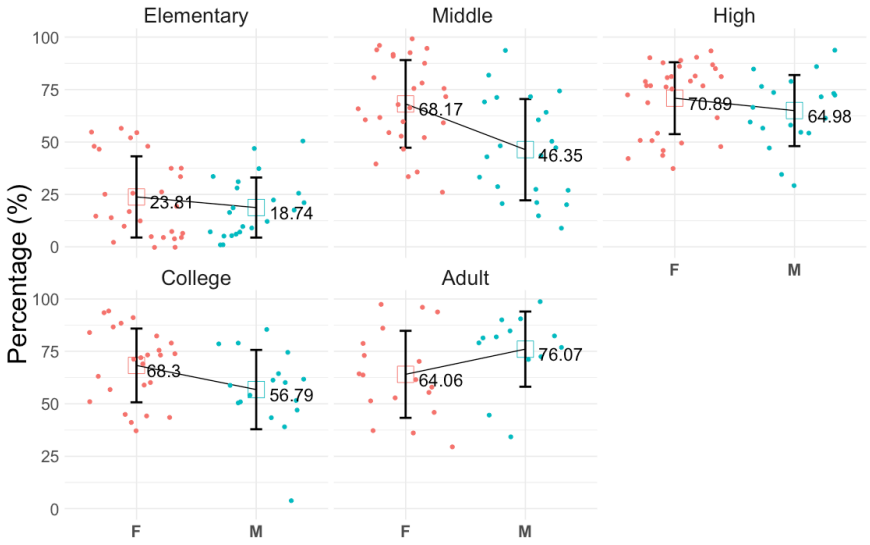
[38] A non-parametric independent-samples t-test (Mann-Whitney U test) was conducted to compare differences in performance. The results revealed that all contrasts were not significant except for the Middle School ($p < .01$): Elementary, $p = .65$; High, $p = .08$; College, $p = .34$; Adult, $p = .19$.

Table 7.11. Descriptive statistics for gender difference in performance on the Jejueo test by group (n=224)

Group	Gender	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	F	28	8.93	5.5	9.97	0	41	1.88	5.06	12.80
Elementary	M	23	8.77	6.0	7.69	1	29	1.64	5.36	12.18
Middle	F	28	23.75	19.0	17.06	0	62	3.22	17.14	30.36
Middle	M	22	11.64	9.0	10.34	0	31	2.20	7.06	16.22
High	F	31	39.68	38.0	10.45	15	60	1.88	35.85	43.51
High	M	19	28.37	22.0	22.81	0	66	5.23	17.38	39.36
College	F	25	35.32	34.0	11.35	8	56	2.27	30.64	40.00
College	M	17	34.06	30.0	18.07	13	82	4.38	24.77	43.35
Adult	F	28	68.50	63.5	17.46	29	92	3.30	61.73	75.27
Adult	M	23	63.57	61.0	12.92	46	85	2.69	57.98	69.16

In English too, only the middle school group showed a significant effect of gender on their performance ($p < .01$). [39]

Figure 7.8. Gender difference in performance on the English test by group



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

[39] A non-parametric independent-samples t-test (Mann-Whitney U test) was conducted to compare differences in performance. The results revealed that all contrasts were not significant except for the Middle School ($p < .01$): Elementary, $p = .53$; High school, $p = .17$; College, $p = .09$; Adult, $p = .09$.

Table 7.12. Descriptive statistics for gender difference in performance on the English test by group (n=244)

Group	Gender	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	F	28	23.81	18.52	19.36	0.00	56.79	3.66	16.30	16.30
Elementary	M	23	18.74	16.66	14.32	1.23	50.62	3.05	12.39	12.39
Middle	F	28	68.17	67.28	20.89	25.93	98.77	3.95	60.07	60.07
Middle	M	22	46.35	45.06	24.15	8.64	93.83	5.15	35.64	35.64
High	F	31	70.89	76.54	17.14	37.04	93.83	3.08	64.60	64.60
High	M	19	64.98	66.67	16.95	29.63	93.83	3.89	56.81	56.81
College	F	25	68.30	71.60	17.59	37.04	93.83	3.52	61.04	61.04
College	M	17	56.79	59.26	18.91	3.70	85.19	4.59	47.07	47.07
Adult	F	18	64.06	62.97	20.75	29.63	97.53	4.89	53.74	53.74
Adult	M	13	76.07	81.48	17.93	34.57	98.77	4.97	65.23	65.23

7.2.5 Does extra tutoring enhance English performance?

As mentioned in Chapter 1, English education is big business throughout Korea. However, the current data indicate that the extra hours of learning English outside of the classroom have no significant impact on the performance of the participants in my test. A non-parametric independent-samples t-test (Mann-Whitney U test) confirmed the lack of significance; $p = .18$.

Table 7.13. Extra hours of English tutoring and English performance (n=224)

English Tutoring	Mean	SD
Yes	56.70	26.86
No	52.29	26.86

7.3 Implications

Speakers who grow up in an endangered language community are often bilingual to varying degrees. Although assessment of language proficiency in those learners is crucial to understand how language is acquired or lost, it is often rather difficult to administer language tests because of a lack of resources to develop the necessary tests. Apart from those obstacles, language test results of the endangered language community can be used for practical purposes such as developing language programs, pedagogical materials for part of language maintenance and revitalization.

As mentioned in Chapter 2, Section 2.3, well-known assessment studies designed to measure proficiency in an endangered language have been carried out for Māori, Cherokee, and Hawaiian (Cooper et al., 2004; Housman et al., 2011; Peter et al., 2011). Although the contributions of these studies have been tangible, their focus on just one language makes it difficult to assess the learners' overall linguistic profile. That can only be done by also assessing their knowledge of the other language, or languages, to which they are exposed.

The current study has fulfilled the need for a full language assessment that allows an appraisal of the participants' proficiency in three different languages – a heritage language (Jejueo), a foreign language (English) and a dominant first language (Korean). The proficiency level of Korean was used as a baseline for analyzing the current status of the two target languages (Jejueo and English). The high proficiency level that was manifested for Korean not only confirmed the viability of the assessment test, it also established that Korean was fully acquired at a relatively young age, providing a baseline developmental profile against which to measure Jejueo and English across different age groups. Moreover, the opportunity to assess the development of Jejueo and English against each other offered major insights into both the

decline of Jejueo and the limitations on fluency in English.

The findings from this comparative study thus contribute to various fields of research, including language acquisition and attrition, bilingualism, L2 learning, and language assessment and testing.

7.4 Conclusion

I have been able here to discuss only a relatively small portion of the data that I have collected. Nonetheless, the analysis of even this data has revealed important facts about the place of Jejueo and English in Jeju education and society.

In future work, I hope to be able to build on and add to my existing data to investigate a series of additional issues. Some of that work will examine various additional factors that could have affected the performance of the participants on the Jejueo and English tests, including their family composition (birth order and number of siblings), interactions with grandparents, and socio-economic status. An in-depth error analysis of participants' responses will also be carried out to better understand the particular linguistic deficits that they manifest.

As things now stand, neither Jejueo nor English is thriving in Jeju Island. Nonetheless, we can now at least begin to see how extensive and fundamental the problem is as well as why some members of the community have been able to do better than others. This is the first step toward finding a way for Jeju Islanders to preserve their linguistic legacy even as they prepare for a role in the modern global economy.

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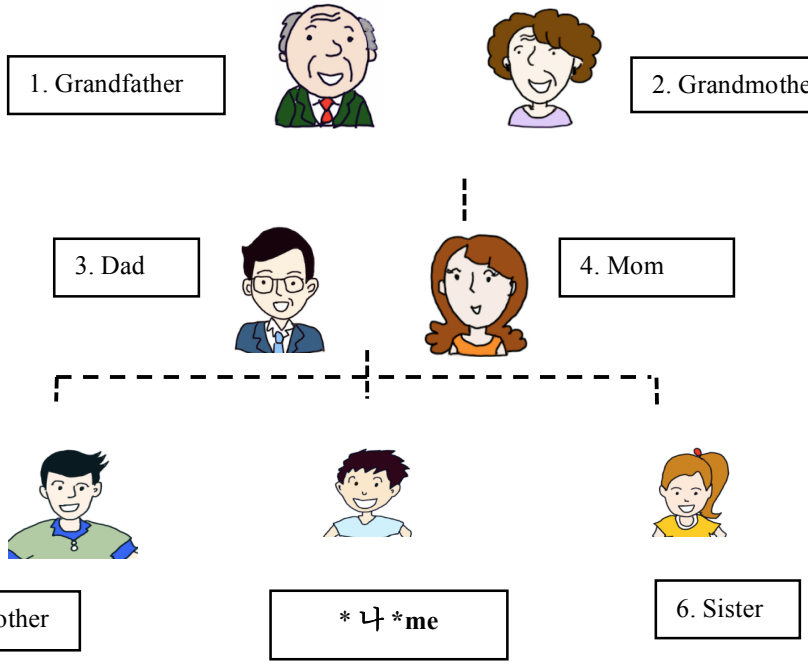
Appendix 1: Pan-Scholastic Language Test (PSLT) for Jejueo and English

English and Jejueo

영어시험 1: 30분, 총 42문항 [모를 경우X로 표시해 주세요]

낱말 쓰기(1-6): 별(*)표의 '나'를 기준으로 가족의 구성원을 영어로 쓰시오. 철자가 틀려도 괜찮습니다.
Vocabulary (1-6): Starting with "me" write the terms for family members. Spelling mistakes are okay.



낱말 쓰기(7-12): 그림에 알맞은 영어 낱말을 쓰시오. 철자가 틀려도 괜찮습니다.
Vocabulary (7-12): Write the names of the objects in the pictures. Spelling mistakes are okay.

7. 

tree

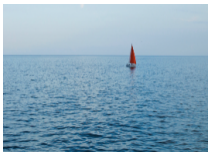
8. 

flower

9. 

rainbow

10. 배가 떠있는 곳은?
10. Where is the boat?



ocean

11. 발이 밟고 있는 것은?
11. What is this person standing on?

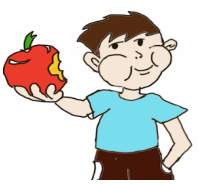
grass

12. 손 안에 있는 것은?
12. What is in this person's hands?

sand

문장 쓰기(13-18): 질문에 알맞은 답을 그림을 보면서 영어로 쓰시오. 철자가 틀려도 괜찮습니다.
Sentence Construction (13-18): Look at the question, and write the best answer in English.

13. 민호 지금 뭐 해? What is Minho doing now?



He is eating an apple.

14. 연수 지금 뭐 해? What is Yeonsu doing now?

She is crying.

15. 사람들 지금 뭐 해? What are the workers doing now?

They are building a house.

16. 지호 지금 뭐 해? What is Jiho doing now?

He is planting a tree.

17. 예지 지금 뭐 해? What is Yeji doing now?

She is dancing.

18. 지수 지금 뭐 해? What is Jisu doing now?

She is taking a walk at the beach.

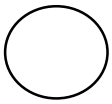
낱말 쓰기 (19-24): 그림을 묘사하는 영어 낱말을 쓰시오. 철자가 틀려도 괜찮습니다.
예를 들어, Describe in English the books in the pictures below. Spelling mistakes are okay.

예1. 이 책의 두께는? 답: **thin** **Ex. 1 Describe the thickness.**	예 2. 이 책의 두께는? 답: **thick** **Ex. 2 Describe the thickness.**
	

동그라미안에 두개의 다른 색이 있습니다.
The colors in the ovals are different.

19. 이 색 어때요? _____
19. Describe this color____black_____

20. 이 색 어때요? _____
20. Describe this color____white_____



There are two ropes. Describe the length of each rope.

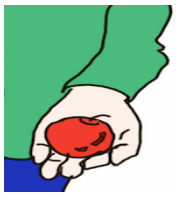
21. 이 줄의 길이는 어때요? Describe length of this rope. _____short_____

22. 이 줄의 길이는 어때요? Describe the length of this rope. _____long_____

그림에 크기가 다른 사과가 있습니다. The two apples are different in size.

23.이 사과는 크기가 어때요? __big___
Describe the size of this apple.

24. 이 사과는 크기가 어때요?___small_____
Describe the size of this apple.



문장 쓰기(25-30): 질문에 알맞은 답을 그림을 보면서 영어로 쓰시오. 철자가 틀려도 괜찮습니다.
Sentence Construction (25-30): Look at the picture, and write the best answer to the question in English.

25. 예지는 어제 무엇을 했어?
25. What did Yeji do yesterday?

She picked flowers.

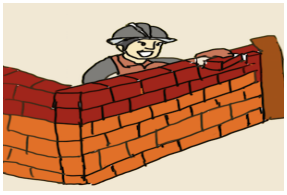
26. 영지는 어제 무엇을 했어?
26. What did Youngji do yesterday?

She drank milk.

27. 지아는 어제 무엇을 했어?
27. What did Jia do yesterday?

She cooked food.

28. 제호는 어제 무엇을 했어?
28. What did Jeho do yesterday?



He built a wall.

29. 민희는 어제 무엇을 했어?
29. What did Minhee do yesterday?

She played the piano.

30. 수호는 어제 무엇을 했어?
30. What did Suho do yesterday?

He went fishing.

낱말 쓰기 (31-36): 그림에 알맞은 영어 낱말을 쓰시오.
Vocabulary (31-36): Write in English the name of the object in the picture.

31.

_____octopus_____

32.

_____oysters_____

33.

_____crab_____

34.

_____onions_____

35.

_____eggs_____

36.

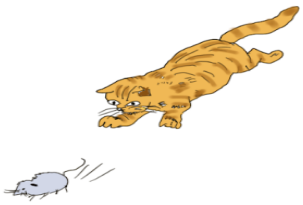
_____potato_____

문장 쓰기 (37-42): 질문에 알맞은 답을 그림을 보면서 영어로 쓰시오. 철자가 틀려도 괜찮습니다.
Sentence Construction (37-42): Look at the picture, and answer the question in English.

37. 오늘은 아주 덥고 태양이 뜨거워 아이스크림은 곧 어떻게 되겠니?
37. It is very hot today , and the sun is very hot. What will happen next to the ice cream?

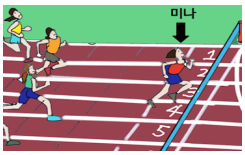
_____It will melt._____

38. 고양이가 아주 빠르게 쥐를 쫓고 있어. 곧 어떻게 되겠니?
38. The cat is quickly chasing the mouse. What will happen next?



_____It will catch the mouse._____

39. 미나가 달리기 시합에서 제일 빨리 달리고 있어. 곧 어떻게 되겠니?
39. Mina is running fastest in the race. What will happen next?



She will win the race.

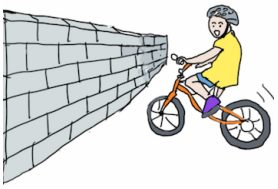
40.배가 아주 고픈 민호가 케익을 바라보고 있어. 곧 어떻게 되겠니?
40. Minho is very hungry and staring at the cake. What will he do next?

He will eat the cake.

41. 순자가 미끄러운 빙판길을 걷고 있어. 곧 어떻게 되겠니?
41. Soonja has lost her balance while walking on the slippery road. What will happen next?

She will fall.

42. 소연이가 앞을 보지 않고 자전거를 타고 있어. 곧 어떻게 되겠니?
42. Soyeon is not looking ahead while riding the bicycle. What will happen next?



He will crash.

낱말 쓰기 (43-48): 그림에 알맞은 영어 낱말을 쓰시오**.** 철자가 틀려도 괜찮습니다.
Vocabulary (43-48): Write the name of each animal in English. Spelling mistakes are okay.

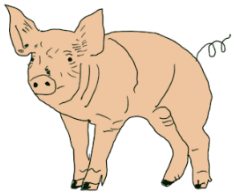
43.

cat

44.

mouse

45.



pig

46.

grasshopper

47.

frog

48.

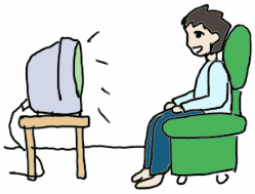
ant

문장 쓰기 (49-54): 질문에 알맞은 답을 그림을 보면서 영어로 쓰시오. 철자가 틀려도 괜찮습니다.
Sentence Construction (49-54): Look at the picture, and write the best answer in English. Spelling mistakes are okay.

49. 5분전에 만수방에 갔을 때 만수 뭐 하고 있었어?
49. When you went to Mansu's room 5 minutes ago, what was he doing?

He was sleeping.

50. 5분전에 거실에 갔을 때 민호 뭐 하고 있었어?
50. When you went to the living room 5 minutes ago, what was Minho doing?



He was watching television.

51. 5분전에 부엌에 갔을 때 순자 뭐 하고 있었어?
51. When you went to the kitchen 5 minutes ago, what was Soonja doing?

She was talking on the telephone.

52. 5분전에 길에서 우연히 소연이를 만났을 때 뭐 하고 있었어?
52. When you met Soyeon on the street 5 minutes ago, what was she doing?

She was going to school.

53. 5분전에 방에 갔을 때 민수 뭐 하고 있었어?
53. When you went to the Mlnsu's room 5 minutes ago, what was he doing?

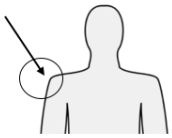
He was studying.

54. 5분전에 방에 갔을 때 소라 뭐 하고 있었어?
54. When you went to the Sola's room 5 minutes ago, what was she doing?

She was reading a book.

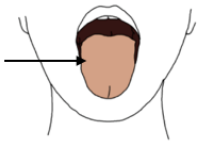
낱말 쓰기(55-60): 그림에 알맞은 영어 낱말을 쓰시오. 철자가 틀려도 괜찮습니다.
Vocabulary (56-60): Look at the picture, and write the correct English word.

55.



shoulder

56.



tongue

57.

knee

58.

bone

59.

neck

60.

face

문장 쓰기(61-66): 주어진 글을 잘 읽고 **친구 유리에게 질문하듯이** 영어로 쓰시오. 철자가 틀려도 괜찮습니다.
Sentence Construction (61-66): Read the instructions above each picture, and ask the correct question in English to Yuri.

유리

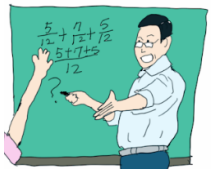
61. 은지가 의사인지 물어봐.
61. Ask if Eunji is a doctor.

Is Eunji a doctor?

62. 현우가 농부지인지 물어봐.
62. Ask if Hyunoo is a farmer.

Is Hyunoo a farmer?

63. 진수가 선생님인지 물어봐.
63. Ask if Jinsu is a teacher.



Is Jinsoo a teacher?

64. 은주가 키가 작은지 물어봐.
64. Ask if Eunjoo is short.

Is Eunjoo short?

66. 민수가 배가 부른지 물어봐.
66. Ask if Minsoo's stomach is full.

_____Is Minsoo's stomach full?_____

67. 소연이가 기쁜지 물어봐.
67. Ask if Soyeon is happy.

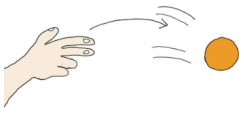
_____Is Soyeon happy?_____

낱말 쓰기 (67-74): 그림에 나타난 동작을 잘 나타내는 영어 낱말을 쓰시오. 철자가 틀려도 괜찮습니다.
Vocabulary (67-74): Write the correct word for the action in each picture. Spelling mistakes are okay.

예를 들어,
For example,

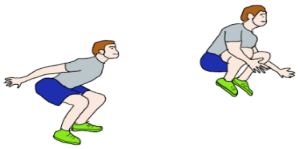
답: hide

67.



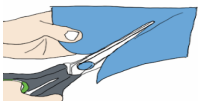
_____throw_____

68.



_____jump_____

69.

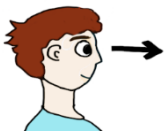


_____cut_____

70.

_____hold hands_____

71.



_____look_____

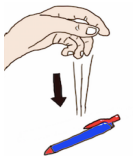
72.

_____shut the door_____

73.

swim

74.



drop

낱말 쓰기(81-86): 그림에 알맞은 영어 낱말을 쓰시오. 철자가 틀려도 괜찮습니다.
Vocabulary (81-86): Look at the picture, and write the correct English word.

81.

scissors

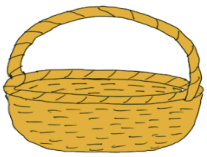
82.

needle

83.

broom

84.



basket

85.

key

86.

cabinet

Appendix 1.1 Jejueo Deference Task

Jejueo Deference Task

문장 쓰기(75-80): 질문에 알맞은 답을 그림을 보면서 **어른에게 대답하듯이** 제주어로 쓰시오. 소리 나는 대로 써도 됩니다.

Sentence Construction (75-80): Look at the picture, and respond to the adult's question in Jeju language.

75. 순자는 무엇을 하고 있어요?
75. What is Soonja doing?

She is running.

76. 수호는 무엇을 하고 있어요?
76. What is Sooho doing?

He is shouting.

77. 지수는 무엇을 하고 있어요?
77. What is Jisu doing?

She is rinsing vegetables.

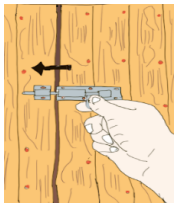
78. 경호는 무엇을 하고 있어요?
79. What is Gyeungho doing?

He is talking.

79. 민호는 무엇을 하고 있어요?
79. What is Minho doing?

He is bathing.

80. 지나는 무엇을 하고 있어요?
80. What is Jina doing?



He is locking the door.

문장 쓰기(87- 92): 질문에 알맞은 답을 그림을 보면서 **어른에게 대답하듯이** 제주어로 쓰시오. 소리 나는 내로 써도 됩니다.

Sentence Construction (87-92): Look at the picture, and respond to the adult's question in Jeju language. Writing according to the sound of the spoken word is allowed.


87. 신발 크기가 어때요?
87. How is the shoe's size?

They do not fit.

88. 방의 온도가 어때요?
88. How is the room temperature?

It is warm.

89. 이 산의 높이가 어때요?
89. What is the mountain's elevation like?

It is high.

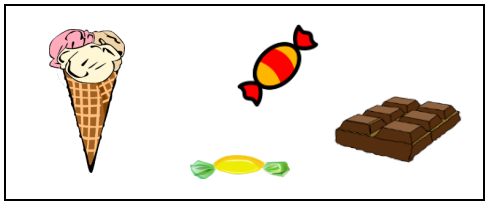
90. 날씨가 어때요?
90. How is the weather?

It is hot.

91. 이 돌의 무게는 어때요?
91. What is the weight of the rock like?

It is heavy.

92. 이 음식들은 맛이 어때요?
92. How is the taste of the ice cream?



It is sweet.

Appendix 1.2 Englisn Deference Task

English Deference Task

문장 쓰기 (75-80): 주어진 글을 잘 읽고 영어로 쓰시오. 철자가 틀려도 괜찮습니다.
Sentence Construction (75-80): Read the passage, and write the correct request in English. Spelling mistakes are okay.

75. 교실 안이 덥습니다. 선생님께 창문을 열어달라고 공손하게 물어보세요. 75. It is hot in the classroom. Politely ask the teacher to close the window.	**76.** 선생님이 이야기를 합니다. 하지만 잘 듣지 못했어요. 선생님께 다시 이야기 해달라고 공손하게 물어보세요. 76. The teacher is talking, but you cannot hear well. Politely ask the teacher to say it again.
	
___Will you please close the window?___	___Would you please say that again?___
77. 도서관 안에서 누군가 음악을 시끄럽게 듣고 있습니다. 볼륨을 줄여달라고 공손하게 물어보세요. 77. Someone is listening to loud music in the library. Politely ask him to turn down the volume.	**78.** 선생님께 케익을 드리고 싶습니다. 케익을 드시겠냐고 공손하게 물어보세요. 78. You want to give the teacher a piece of cake. Politely ask the teacher to have a piece of cake.
	
___Would you please turn down the volume?____	___Please have a piece of cake._____
79. 식당에서 일한다고 상상해보세요. 손님에게 주문을 하시겠냐고 공손하게 물어보세요. 79. Imagine you work at a restaurant. Politely ask the customer to order.	80. 슈퍼마켓에서 일한다고 상상해 보세요. 손님에게 가방이 필요한지 공손하게 물어보세요. 80. Imagine you work at the supermarket. Politely ask the customer if they need a bag.
	
Would you like to order?	Would you like a bag?

Appendix 2: A sample set of native speakers' responses (Jejueo and English)

1) Jejueo

ID	Age	Gender	J13	J14	J15
JP01	80	M	자인 능금 먹 엄쩌. 자인 능금 먹엄신게	야이 울엄신게	집덜 짓엄쩌
JP02	78	F	능금 주게 주엄쩌	울엄쩌	새집 짓엄신게
JP03	87	F	능금주젠혬쩌/능금줴여쩌	눈물남쩌/울엄쩌	집짓엄쩌
JP04	74	M	사과먹엄쩌	울엄쩌	집 짓엄쩌
JP05	72	F	사과 먹엄저	울엄신게	집 짓엄신게
JP06	74	M	사과먹엄신게	울엄신게	집 지엄신게
JP07	70	M	사과먹엄쩌	울엄쩌	집 짓엄쩌
JP08	74	M	사과 먹엄져	울엄져	지붕고첨저
JP09	73	M	농구을먹는다	울엄싱게	집지섬싱게
JP10	71	M	과일먹엄저	자이 울엄저	집짓엄쩌
JP11	65	M	사과 먹으멘	울멘	지붕 고치멘
JP12	67	F	능금 먹엄쩌	울엄쩌	집 짓엄쩌
			J16	J17	J18
			낭 싱검쩌	자인 가달춤 췸쩌.	자인 돌암쩌.
			낭 싱검신게	춤 췸신게	돌을락혬신게
			낭싱검쩌	춤췸쩌	바당의놀레감쩌
			낭 싱검쩌	춤 췸줘	바당드레 내려 감신게
			꼿낭 싱검쩌	춤 췸시게	바당감쩌
			낭 싱검신게	춤 췸신게	몸 곰으레 감쩌
			낭 싱검쩌	춤췸서	바당의 놀레감쩌
			낭심검져	춤첨쩌	놀암져
			낭심엄싱게	춤첨싱게	바당에서걸럼싱게
			소낭 심금져	놈담져 들러키라	바당 몰래감져
			꼿낭 심그멘	춤추멘	바당구경가멘
			낭 싱검쩌	춤췸쩌	바당더레 감쩌

2) English

ID	country	age	gender	E13	E14	E15
P01	USA	30s	M	He is eating an apple.	She is crying.	They are building a house.
P02	USA	20s	F	Minho is eating an apple	Yeonsu is crying	Th workers are doing construction
P03	USA	20s	F	eating an apple	crying	building a house
P04	USA	20s	M	eating an apple	cyring	building a house
P05	USA	20s	F	eating an apple	crying (or sobbing/weeping)	building/constructing a house
P06	USA	50s	M	Chewing a bite of apple	crying profusely	Roofing a huse, building a house
P07	USA	30s	M	He's eating an apple	She's crying	Building a house
P08	USA	30s	F	Minho is eating (bigint/shewing) an apple.	Yeonsu is crying	The workers are building
P09	USA	30s	M	eating an apple	crying	building a house
P10	USA	20s	M	eating an apple	crying	building/constructing
P11	USA	20s	F	Minho is eating an apple	Yeonsu is bawling	The workders are doing constrution work
P12	USA	30s	F	Minho is eating an apple	yeonsu is crying	The workers are working
				E16	E17	E18
				He is planting a tree.	She is dancing.	She is taking a walk at the beach.
				Jiho is planting a tree.	Yeji is dancing	Jisu is walking to the beach
				planting a tree	dancing	going to the beach
				planting a tree	dancing	walking at the beach
				planting a tree	dancing	going to the beach?
				Planting a tree(sapling)	Dancing(possibly the tango)	Walking near or to the beach or seashore
				Planting a tree	Dancing	Walking to the beach
				Jiho is planting a tree	Yeji is dancing	Jisu is wlakingto the water
				planting a tree	dancing	walking to the beach
				planting a tree	dancing	wlking? (hard to tell)
				Hiho is planting a tree	Yeji is flaminco dancing	Jisu is walking to the beach
				Jiho is planting a tree	Yeji is dancing	Jisu is walking to the ocean

Appendix 3: The background survey

Personal Information

Gender: Female _____, Male _____
Year of birth: _____
Place of birth (e.g. Jeju-shi, Seoguipo-shi): _____
In which city/town do you live now? (e.g. Ora-dong, Jeju-shi) _____
Where is your mother from? 1) Jeju Island 2) Other _____
Where is your father from? 1) Jeju Island 2) Other _____
Where is your grandmother (mother's side) from? 1) Jeju Island 2) Other _____
Where is your grandfather (mother's side) from? 1) Jeju Island 2) Other _____
Where is your grandmother (father's side) from? 1) Jeju Island 2) Other _____
Where is your grandfather (father's side) from? 1) Jeju Island 2) Other _____
Who have you lived with? (circle all that apply):
grandmother, grandfather, mother, father, sister, brother, uncle, aunt, other _____, live alone
How often do you meet with your grandparents who speak Jejueo? (if applicable, e.g. once a month) _____
Do you take private English lessons outside of school? Yes _____, No_____
(if yes, how many hours per week? _____ hours/per week)
Do you attend after-school Jejueo classes? Yes _____, No_____
(if yes, how many hours per week? _____ hours/per week)

Please select yes or no.

	Yes	No
Have you ever travelled abroad?		
Have you ever lived overseas or attended school overseas?		
Have you ever texted in Jejueo?		
Have you ever written a letter or a journal in Jejueo?		
Have you ever texted in English?		
Have you ever written a letter or a journal in English		

Language Background

Which language (Korean, Jejueo, English and other) is spoken most in each context described below (**Choose only one**)?

	Korean	Jejueo	English	Other language
Your mother is speaking to you.				
Your father is speaking to you.				
Your grandmother (mother's side) is speaking to you.				
Your grandfather (mother's side) is speaking to you.				
Your grandmother (father's side) is speaking to you.				
Your grandfather (father's side) is speaking to you.				
You are speaking to **older people** from Jeju Island				
You are speaking to **older people** NOT from Jeju Island				
You are speaking to your **relatives**.				

Language use

On a scale of 0 (0 %) to 5 (100%), how much of each language is used **at home**?

At home	0 (0%)	1 (20%)	2 (40%)	3 (60%)	4 (80%)	5 (100%)
Korean used by your **family**						
Jejueo used by your **family**						
English used by your **family**						
Korean used by **you**						
Jejueo used by **you**						
English used by **you**						

On a scale of 0 (0 %) to 5 (100 %), how much of each language was used **at school**?

	At school	0 (0%)	1 (20%)	2 (40%)	3 (60%)	4 (80%)	5 (100%)
In class	**Korean** used by your **teachers**						
	Jejueo used by your **teachers**						
	English used by your **teachers**						
	Korean used by **you**						
	Jejueo used by **you**						
	English used by **you**						
Between classes	**Korean** used by **you**						
	Jejueo used by **you**						
	English used by **you**						

On a scale of 0 (0 %) to 5 (100 %), how much of each language is used **at work**?

At work	0 (0%)	1 (20%)	2 (40%)	3 (60%)	4 (80%)	5 (100%)
Korean used by your **co-workers**						
Jejueo used by your **co-workers**						
English used by your **co-workers**						
Korean used by **you**						
Jejueo used by **you**						
English used by **you**						

On a scale of 0 (0 %) to 5 (100%), how much of each language is used with **friends**?

Between friends	0 (0%)	1 (20%)	2 (40%)	3 (60%)	4 (80%)	5 (100%)
Korean used by your **friends**						
Jejueo used by your **friends**						
English used by your **friends**						
Korean used by **you**						
Jejueo used by **you**						
English used by **you**						

Language Domains

In your opinion which language (pick only one) is most important for …

	Jejueo	English	Korean	Other language
making friends				
getting a good job				
getting a good education				
talking with friends				
making money				
being accepted in Jeju				
talking with teachers				
going to the store				
talking to the village elders				
attending a sigge				
attending a wedding				
attending a funeral				

Languages Attitudes

In your opinion, how much do you agree on each statement below?

	Strongly Agree	Agree	Disagree	Strongly Disagree
I like speaking Jejueo.				
I like speaking Korean.				
I like speaking English.				
All Jeju islanders need to know English.				
All Jeju islanders need to know Jejueo.				
Jejueo is really fashionable.				
English is really fashionable.				
Jeju young people like to speak Jejueo.				
Jeju young people like to speak English.				
Jeju young people like to speak Korean.				
Jejueo is important for Jeju Island.				
English is important for Jeju Island.				
I have positive feelings about Jejueo.				
I have positive feelings about English.				
In order to be a Jeju person, s/he has to speak Jejueo.				
Jejueo should be taught in school.				
English should be taught more in school.				
People who speak Jejueo have confidence in themselves.				
People who speak English have confidence in themselves.				

Language Self-Assessment

On a scale of 0 (not at all) to 5 (perfectly well) how well can you speak each language?

	0 (not at all)	1	2	3	4	5 (Perfectly well)
Korean						
Jejueo						
English						

Appendix 4: Sample scoring guidelines

1) Jejueo

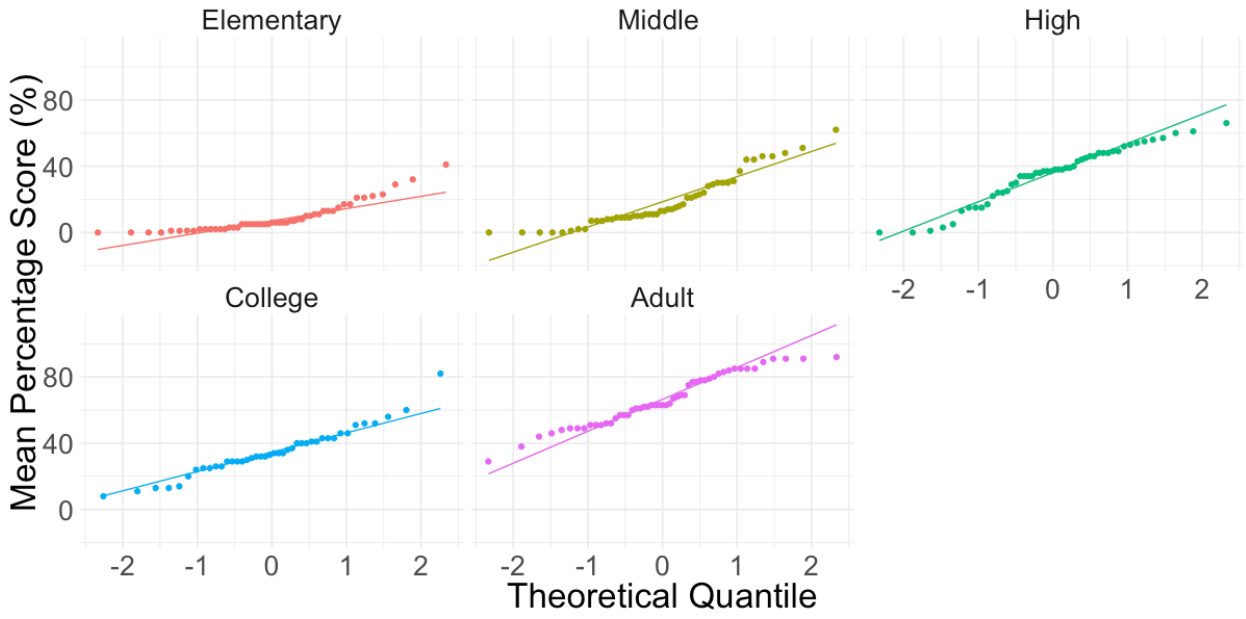
	Guidelines
Do	give only o or 1. read the question carefully. read the response carefully. allow multiple responses as long as they are acceptable.
Ignore	spelling mistakes as long as they are recognizable. (e.g., the use of wrong subject (e.g., I over she or he was acceptable.) tense and aspect marking if the target morpheme is the addressee honorific marker, -u, and –su.

2) English

	Guidelines
Do	give only 0 or 1. read the question carefully. read the response carefully. allow multiple responses as long as they are acceptable.
Ignore	spelling mistakes as long as they are recognizable. wrong subject (e.g., I over she or he was acceptable.)

Appendix 5: The ANOVA assumption tests for Jejueo

1) QQ plots



2) Shapiro test

Table 5-1 Sharpiro test results for Jejueo

	statistic.W	p.value
Elementary	0.8194125	2.103913e-06
Middle	0.8944923	3.176822e-04
High	0.9541342	5.056182e-02
College	0.9575046	1.201694e-01
Adult	0.9612679	9.446952e-02

3) Levene's Test: Homogeneity of Variance

Df	F value	Pr(>F)
4	4.4507	0.001734 **

Appendix 6: Proportion Correct for Individual Jejueo Vocabulary Items (n=45)

The tables and figures presented in this appendix are intended to serve as a supplement to Chapter 5. The tables provide descriptive statistics such as mean percentage scores, standard deviations, minimum scores, maximum scores, standard errors, and confidence intervals. The figures visually represent distribution of percentage scores in individual tasks. Relevant Section numbers, Table numbers, and Figure numbers from Chapter 5 are provided in parentheses.

Table 6-1. Descriptive statistics of the Jejueo Test for all five groups (also see ***Figure 5.1***)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	8.71	6.0	8.93	0	41	1.25	6.20	15.90
Middle	50	18.42	13.0	15.59	0	62	2.20	13.99	28.62720
High	50	35.38	37.5	16.99	0	66	2.40	30.55	53.61422
College	42	34.81	33.5	14.26	8	82	2.20	30.37	52.50991
Adult	51	66.27	63.0	15.63	29	92	2.19	61.87	75.55215

Table 6-2. Descriptive statistics of the vocabulary task by group (also see ***Figure 5.6***)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	7.69	7	6.03	0	27	0.84	5.99	9.19
Middle	50	14.22	13	9.80	0	38	1.39	11.43	16.08
High	50	24.66	24	12.96	0	51	1.83	20.98	26.84
College	42	24.21	22	14.62	0	91	2.26	19.65	26.85
Adult	51	63.78	64	17.56	16	93	2.46	58.84	66.32

Table 6-3. Descriptive statistics of the verbal pattern task by group (also see ***Figure 5.6***)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	12.38	7.0	15.95	0	76	2.23	7.82	15.90
Middle	50	26.04	15.5	25.63	0	93	3.62	18.74	28.63
High	50	50.75	58.5	26.28	0	91	3.72	43.31	53.61
College	42	50.09	50.0	19.51	2	88	3.01	44.02	52.51
Adult	51	73.71	81.0	18.79	21	98	2.63	68.42	75.55

Table 6-4. Overall descriptive statistics for semantic domains (also see ***Figure 5.8***)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Household	244	15.57	0	27.76	0	100	1.78	12.07	24.70
AV	244	21.56	20	24.93	0	100	1.60	18.42	15.68
Body	244	12.53	0	24.96	0	100	1.60	9.38	35.93
Food	244	31.51	17	35.05	0	100	2.24	27.09	27.30
Animal	244	24.20	17	24.62	0	100	1.58	21.10	22.67
Nature	244	19.85	17	22.34	0	100	1.43	17.03	32.68
DV	244	28.52	20	32.95	0	100	2.11	24.36	64.60
Kinship	244	60.48	67	32.70	0	100	2.09	56.36	24.70

Table 6-5. Pairwise Comparisons on the Verbal tasks (also see 5.3.4)

	Elementary	Middle	High	College
Middle	0	*NA*	*NA*	*NA*
High	0	0	*NA*	*NA*
College	0	0	0.618	*NA*
Adult	0	0	0.000	0

Table 6-6. A summary of mean percentage scores for all verbal patterns (also see ***Figure 5.8***)

	PRS_ CONTS	PST_ CONT	Deference	Prospective	Question	Perfective	Total
Elementary	16.31	5.88	1.65	25.82	16.35	18.96	10
Middle	36.32	9.66	21.49	25.02	28.64	39.66	19.9
High	68.96	33.3	34.03	48.98	74.62	61.32	37.28
College	75.74	19.05	37.88	41.6	58.76	79.71	36.81
Adult	90.82	46.1	75.15	62.73	70.61	95.39	66.42

Figure 6-1 Overall mean percentage scores of individual verbal pattern tasks by group (also see ***Figure 5.8***)

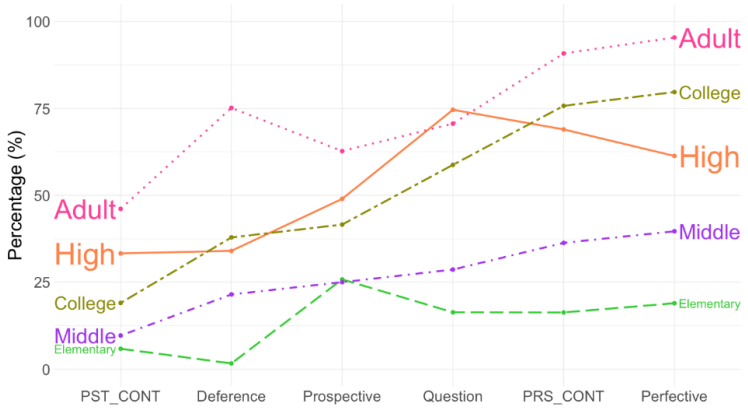
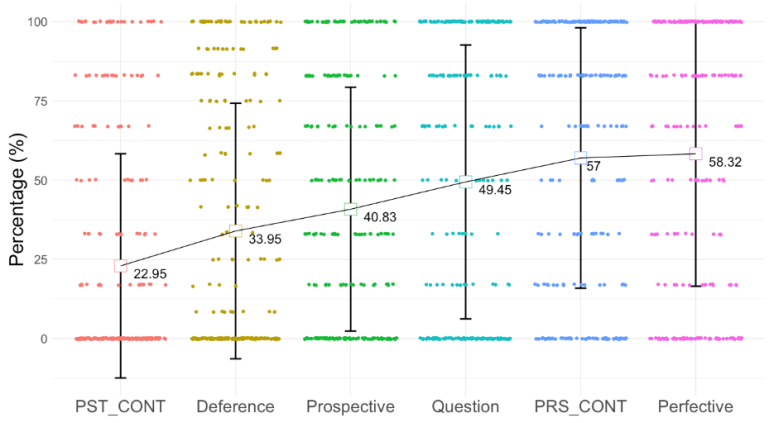


Table 6-7. Distribution of average mean percentage scores on individual verbal pattern tasks by group (also see ***Figure 5.8***)

	PST_CONT	Deference	Prospective	Question	PRS_CONT	Perfective
Elementary	5.88	1.65	25.82	16.35	16.31	18.96
Middle	9.66	21.49	25.02	28.64	36.32	39.66
High	33.30	34.03	48.98	74.62	68.96	61.32
College	19.05	37.88	41.60	58.76	75.74	79.71
Adult	46.10	75.15	62.73	70.61	90.82	95.39

Figure 6-2. Distribution of the percentage scores by verbal pattern (also see ***Figure 5.8***)



Note: The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 6-8. A summary of the pairwise comparisons between verbal pattern tasks (also see 5.3.4)

	Deference	Perfective	Prospective	PRS_CONT	PST_CONT
Perfective	0.000	*NA*	*NA*	*NA*	*NA*
Prospective	0.022	0.000	*NA*	*NA*	*NA*
PRS_CONT	0.000	0.599	0.000	*NA*	*NA*
PST_CONT	0.002	0.000	0.000	0.000	*NA*
Question	0.000	0.020	0.047	0.049	0

Table 6-9. A summary of the pairwise comparisons between percentage scores on individual verbal pattern tasks in the adult group (also see 5.3.4)

	PST_CONT	Deference	Prospective	Perfective	PRS_CONT
Deference	0.000	*NA*	*NA*	*NA*	*NA*
Prospective	0.042	0.061	*NA*	*NA*	*NA*
Perfective	0.000	0.000	0.000	*NA*	*NA*
PRS_CONT	0.000	0.006	0.000	0.155	*NA*
Question	0.001	0.908	0.094	0.001	0.022

Table 6-10. A summary of the pairwise comparisons between percentage scores on individual tasks in the college group (also see 5.3.4)

	PST_CONT	Deference	Prospective	Perfective	PRS_CONT
Deference	0.055	*NA*	*NA*	*NA*	*NA*
Prospective	0.002	0.459	*NA*	*NA*	*NA*
Perfective	0.000	0.000	0.000	*NA*	*NA*
PRS_CONT	0.000	0.000	0.000	0.437	*NA*
Question	0.000	0.041	0.044	0.005	0.037

Table 6-11 A summary of the pairwise comparisons between percentage scores on individual tasks in the High school group (also see 5.3.4)

	PST_CONT	Deference	Prospective	Perfective	PRS_CONT
Deference	0.856	*NA*	*NA*	*NA*	*NA*
Prospective	0.072	0.075	*NA*	*NA*	*NA*
Perfective	0.002	0.003	0.209	*NA*	*NA*
PRS_CONT	0.000	0.000	0.044	0.336	*NA*
Question	0.000	0.000	0.007	0.063	0.236

Table 6-12 A summary of the pairwise comparisons between percentage scores on individual tasks in the Middle school group (also see 5.3.4)

	PST_CONT	Deference	Prospective	Perfective	PRS_CONT
Deference	0.035	*NA*	*NA*	*NA*	*NA*
Prospective	0.017	0.728	*NA*	*NA*	*NA*
Perfective	0.000	0.041	0.121	*NA*	*NA*
PRS_CONT	0.000	0.087	0.196	0.757	*NA*
Question	0.020	0.689	0.975	0.183	0.266

Table 6-13 A summary of the pairwise comparisons between task results in the elementary group (also see 5.3.4)

	PST_CONT	Deference	Prospective	Question	PRS_CONT
Deference	0.15	*NA*	*NA*	*NA*	*NA*
Prospective	0.00	0	*NA*	*NA*	*NA*
Question	0.01	0	0.15	*NA*	*NA*
PRS_CONT	0.01	0	0.06	0.78	*NA*
Perfective	0.00	0	0.23	0.64	0.59

Figure 6-3. Overall mean percentage scores on TAM tasks (also see 5.3.4)

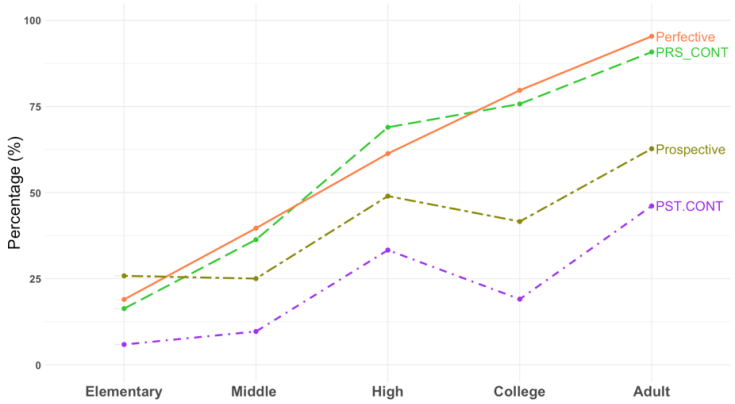


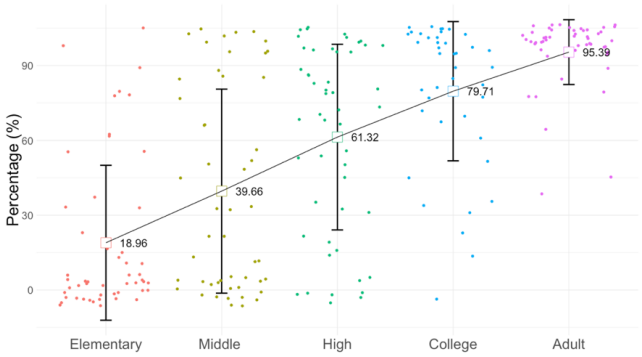
Table 6-14 Descriptive statistics for the TAM task results (see 5.3.4)

	n	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	16.75	8.25	23.12	0.00	95.75	3.24	10.25	23.25
Middle	50	27.66	22.88	26.56	0.00	91.50	3.76	20.11	35.21
High	50	53.14	56.25	28.81	0.00	100.00	4.07	44.95	61.33
College	42	54.02	54.12	19.19	4.25	87.25	2.96	48.04	60.00
Adult	51	73.76	75.00	17.29	37.50	100.00	2.42	68.90	78.62

Table 6-15. Descriptive statistics for the TAM task results (also see 5.3.4)

	Elementary	Middle	High	College	Adult
PST.CONT	5.88	9.66	33.3	19.05	46.1
Prospective	25.82	25.02	48.98	41.6	62.73
PRS_CONT	16.31	36.32	68.96	75.74	90.82
Perfective	18.96	39.66	61.32	79.71	95.39

Figure 6-4 Distribution of percentage scores on the perfective task by group (also see 5.3.4)

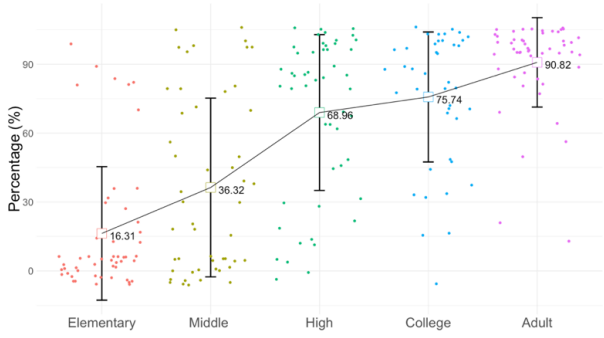


Note: The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 6-16 Descriptive statistics for the perfective task (also see 5.3.4)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	18.96	0.0	31.05	0	100	4.35	10.23	27.69
Middle	50	39.66	25.0	40.91	0	100	5.78	28.03	51.29
High	50	61.32	67.0	37.21	0	100	5.26	50.74	71.90
College	42	79.71	91.5	27.90	0	100	4.31	71.02	88.40
Adult	51	95.39	100.0	12.99	33	100	1.82	91.74	99.04

Figure 6-5 Distribution of percentage scores on the Present Continuative task by group (also see 5.3.4)

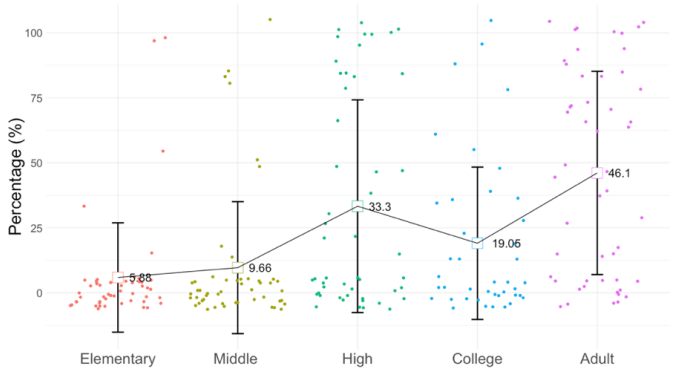


Note: The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 6-17. Descriptive statistics for the Present Continuative task (also see 5.3.4)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	16.31	0	29.07	0	100	4.07	8.13	24.49
Middle	50	36.32	25	38.91	0	100	5.50	25.26	47.38
High	50	68.96	83	33.94	0	100	4.80	59.31	78.61
College	42	75.74	83	28.30	0	100	4.37	66.92	84.56
Adult	51	90.82	100	19.48	17	100	2.73	85.34	96.30

Figure 6-6 Distribution of percentage scores on the Past Continuative task by group (also see 5.3.4)

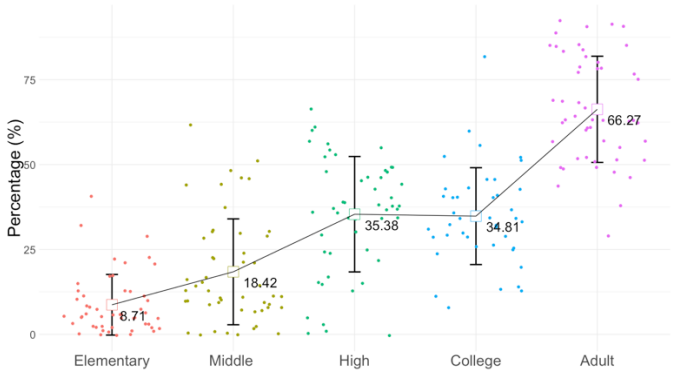


Note: The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 6-18. Descriptive statistics for the Past Continuative task (also see 5.3.4)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	5.88	0	21.03	0	100	2.94	-0.03	11.79
Middle	50	9.66	0	25.39	0	100	3.59	2.45	16.87
High	50	33.30	0	40.91	0	100	5.79	21.67	44.93
College	42	19.05	0	29.30	0	100	4.52	9.92	28.18
Adult	51	46.10	50	39.08	0	100	5.47	35.11	57.09

Figure 6-7 Distribution of percentage scores on the Prospective by group (also see 5.3.4)



Note: The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

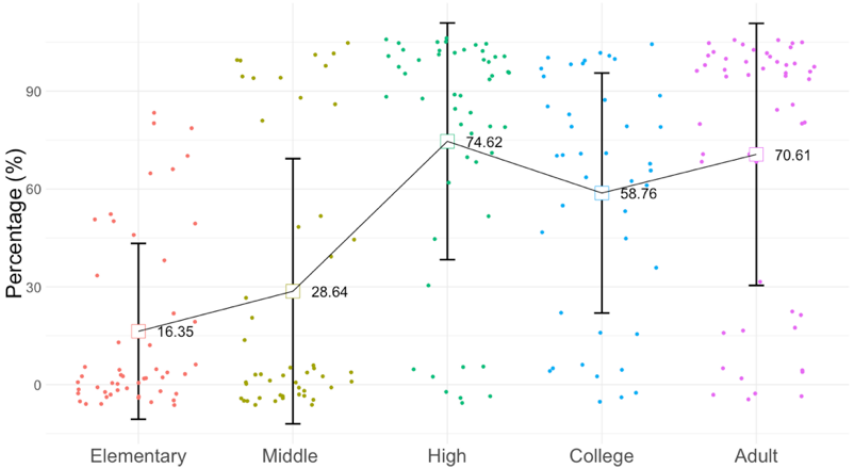
Table 6-19. Descriptive statistics for the Prospective task (also see 5.3.4)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	25.82	17	33.99	0	100	4.76	16.26	35.38
Middle	50	25.02	0	34.07	0	100	4.82	15.34	34.70
High	50	48.98	50	41.96	0	100	5.93	37.06	60.90
College	42	41.60	33	34.32	0	100	5.30	30.91	52.29
Adult	51	62.73	67	34.38	0	100	4.81	53.06	72.40

Table 6-20. Pairwise comparisons for the Prospective task (also see 5.3.4)

	Elementary	Middle	High	College
Middle	0.74	*NA*	*NA*	*NA*
High	0.01	0.01	*NA*	*NA*
College	0.02	0.02	0.49	*NA*
Adult	0.00	0.00	0.14	0.01

Figure 6-8. Distribution of the percentage scores on the Yes/No Question formation task (also see 5.3.4)



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

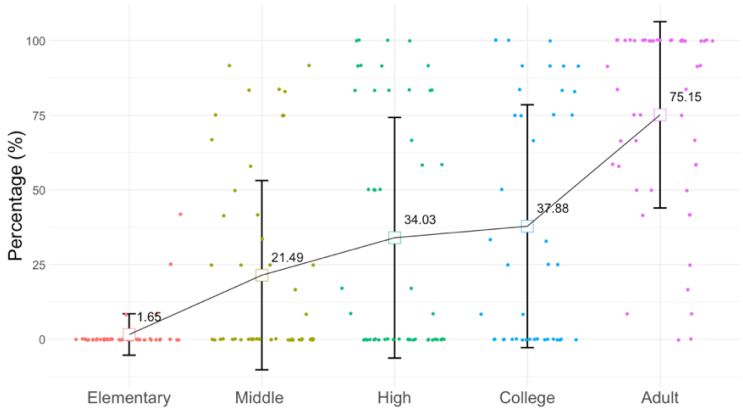
Table 6-21 Descriptive statistics for the Yes/no Question formation task (also see 5.3.4)

	n	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	16.35	0.0	26.96	0	83	3.77	8.77	23.93
Middle	50	28.64	0.0	40.66	0	100	5.75	17.09	40.19
High	50	74.62	91.5	36.29	0	100	5.13	64.31	84.93
College	42	58.76	67.0	36.81	0	100	5.68	47.29	70.23
Adult	51	70.61	100.0	40.17	0	100	5.62	59.31	81.91

Table 6-22. Pairwise comparisons for the Yes/no Question formation (also see 5.3.4)

	Elementary	Middle	High	College
Middle	0.03	*NA*	*NA*	*NA*
High	0.00	0	*NA*	*NA*
College	0.00	0	0.01	*NA*
Adult	0.00	0	0.38	0.07

Figure 6-9 Distribution of the percentage scores on the Deference task by group (also see 5.3.4)



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 6-23 Descriptive statistics for the Deference task (also see 5.3.4)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	1.65	0.00	6.92	0	42.0	0.97	-0.30	3.56
Middle	50	21.49	0.00	31.66	0	91.5	4.48	12.49	30.50
High	50	34.03	4.25	40.26	0	100.0	5.69	22.59	45.44
College	42	37.88	25.00	40.64	0	100.0	6.27	25.22	50.57
Adult	51	75.15	91.50	31.16	0	100.0	4.36	66.39	83.92

Table 6-24 Pairwise comparisons for the Deference Task (also see 5.3.4)

	Elementary	Middle	High	College
Middle	0	*NA*	*NA*	*NA*
High	0	0.02	*NA*	*NA*
College	0	0.00	0.55	*NA*
Adult	0	0.00	0.00	0

Appendix 7: Proportion Correct for Individual Jejueo Vocabulary Items (n=45)

The following table provides information about the proportion of correct responses for each vocabulary test item; a score of 1 would indicate that every participant responded correctly

As can be seen, a majority of the participants across all age groups were able to produce the word *haleubang* 'grandfather' in Jejueo (proportion correct= .75), whereas 25% of the participants got the item wrong or did not respond at all. The item that yielded the lowest result in the entire vocabulary test was J09 (*sanggoji* 'rainbow'), which only 1% of the participants were able to produce.

Item	Word	Elementary	Middle	High	College	Adult
J01	*haleubang* 'grandfather'	0.55	0.68	0.82	0.86	0.98
J02	*halmang* 'grandmother'	0.57	0.64	0.8	0.81	0.98
J03	*abang* 'father'	0.37	0.64	0.84	0.86	0.98
J04	*eomeong* 'mother'	0.47	0.7	0.86	0.86	0.98
J05	*seong* 'older brother'	0.04	0.32	0.44	0.24	0.67
J06	*asi* 'younger sibling', *nui* 'younger sister'	0.08	0.18	0.16	0.29	0.53
J07	*nang* 'tree'	0	0.1	0.44	0.29	0.86
J08	*gojang* 'flower'	0	0	0	0.05	0.14
J09	*sanggoji* 'rainbow'	0	0	0	0.02	0.1
J10	*badang* 'sea'	0.16	0.3	0.52	0.55	0.98
J11	*teyeog* 'grass'	0.06	0.04	0.06	0.19	0.14
J12	*mosal* 'sand'	0	0	0.02	0.05	0.86
J19	*geomeonghawda* 'black'	0	0.16	0.34	0.38	0.76
J20	*heoyeonghawda* 'white'	0.06	0.08	0.28	0.36	0.78
J21	*jjolleuda* 'short'	0	0.04	0.26	0.38	0.84
J22	*jilda* 'long	0	0	0.06	0.02	0.41
J24	*jolda* 'small'	0.04	0.32	0.4	0.33	0.8
J31	*mulkkuleog/mungge* 'octopus'	0.02	0.04	0.02	0.05	0.69
J32	*bomal* 'gastopod/seasnail/periwinkles	0.1	0.1	0.24	0.31	0.88
J33	*gingi* 'crab'	0.02	0.04	0.2	0.07	0.8
J34	*nawmppi* 'radish/turnip'	0	0.22	0.4	0.33	0.86
J35	*dogsegi* 'egg'	0	0.14	0.18	0.21	0.94
J36	*jiseul* 'potato'	0.1	0.3	0.68	0.48	0.92
J43	*gonengi* 'cat'	0.14	0.2	0.52	0.36	0.9
J44	*jwingi* 'mouse'	0	0	0.04	0.05	0.65
J45	*dosegi* 'pig'	0.2	0.58	0.78	0.74	1
J46	*malchug* 'grasshopper'	0	0	0	0.02	0.29
J47	*gawlgaebi* 'frog'	0	0	0	0	0.24
J48	*geyeomji* 'ant'	0	0	0.02	0.05	0.43
J55	*dugji* 'shoulder'	0	0.02	0.02	0.02	0.33
J56	*se* 'tongue'	0	0	0	0.05	0.47
J57	*dawgmawlawb* 'knee'	0	0	0	0.05	0.41
J58	*kkwang* 'bone'kkwang 'bone'	0	0.06	0.16	0.1	0.69
J59	*yagaegi/mogaji* 'neck'	0	0.02	0.16	0.07	0.65
J60	*yangi/naws* 'face'	0	0	0	0.02	0.35
J67	*dekkida* 'throw/toss'	0	0.1	0.42	0.24	0.63
J69	*gawsda* 'cut'	0	0	0.12	0.07	0.49
J70	*simda* 'hold'	0	0.04	0.04	0.1	0.47
J71	*belida* 'see'	0.49	0.22	0.4	0.43	0.71
J74	*mundeulida* 'drop'	0	0	0	0.1	0.29
J81	*gawse* 'scissors'	0	0.06	0.22	0.29	0.8

J82	*banong* 'needle'	0	0.08	0.12	0.07	0.61
J83	*bichilag* 'broom'	0.02	0	0	0.07	0.55
J84	*chalong* 'basket'	0	0	0.02	0.02	0.49
J85	*swette* 'key'	0.02	0	0.04	0.02	0.31

Appendix 8: Proportion Correct for Individual Jejueo Verbal Patterns

The following table provides information about the proportion of correct responses for each verbal pattern; a score of 1 would indicate that every participant responded correctly

Item	Condition	Elementary	Middle	High	College	Adult	Total
J13A	PRS Continuative	0.25	0.46	0.88	0.81	0.9	0.66
J14A	PRS Continuative	0.22	0.38	0.74	0.76	0.9	0.6
J15A	PRS Continuative	0.16	0.3	0.72	0.81	0.94	0.59
J16A	PRS Continuative	0.1	0.36	0.68	0.86	1	0.6
J17A	PRS Continuative	0.2	0.36	0.64	0.83	0.9	0.59
J18A	PRS Continuative	0.06	0.32	0.48	0.48	0.8	0.43
J25A	Perfective	0.2	0.48	0.56	0.83	1	0.61
J26A	Perfective	0.14	0.3	0.52	0.67	1	0.53
J27A	Perfective	0.18	0.38	0.58	0.74	0.88	0.55
J28A	Perfective	0.2	0.4	0.5	0.79	0.92	0.56
J29A	Perfective	0.16	0.42	0.82	0.83	0.96	0.64
J30A	Perfective	0.27	0.4	0.7	0.93	0.96	0.65
J37A	PST Continuative	0.22	0.24	0.52	0.55	0.73	0.45
J38A	PST Continuative	0.25	0.26	0.5	0.45	0.71	0.43
J39A	PST Continuative	0.37	0.18	0.4	0.33	0.55	0.37
J40A	PST Continuative	0.22	0.2	0.46	0.26	0.47	0.32
J41A	PST Continuative	0.22	0.34	0.54	0.48	0.67	0.45
J42A	PST Continuative	0.27	0.28	0.52	0.43	0.65	0.43
J49A	Prospective	0.04	0.04	0.34	0.17	0.29	0.18
J50A	Prospective	0.08	0.08	0.4	0.19	0.47	0.24
J51A	Prospective	0.04	0.08	0.34	0.07	0.49	0.2
J52A	Prospective	0.06	0.16	0.36	0.24	0.49	0.26
J53A	Prospective	0.08	0.12	0.3	0.26	0.55	0.26
J54A	Prospective	0.06	0.1	0.26	0.21	0.47	0.22
J61A	Q. Formation	0.16	0.32	0.76	0.69	0.75	0.54
J62A	Q. Formation	0.1	0.3	0.78	0.67	0.69	0.51
J63A	Q. Formation	0.08	0.32	0.78	0.67	0.73	0.52
J64A	Q. Formation	0.16	0.26	0.74	0.55	0.69	0.48
J65A	Q. Formation	0.24	0.28	0.78	0.57	0.69	0.51
J66A	Q. Formation	0.25	0.24	0.64	0.38	0.71	0.44
J75A	Deference1	0	0.22	0.42	0.4	0.86	0.38
J76A	Deference2	0	0.22	0.4	0.45	0.75	0.36
J77A	Deference3	0.02	0.1	0.34	0.38	0.73	0.31
J78A	Deference4	0	0.02	0.4	0.4	0.73	0.31

J79A	Deference5	0	0.28	0.4	0.43	0.71	0.36
J80A	Deference6	0	0.2	0.38	0.45	0.84	0.37
J87A	Deference2	0.02	0.28	0.24	0.36	0.82	0.34
J88A	Deference3	0.04	0.24	0.34	0.36	0.73	0.34
J89A	Deference4	0	0.3	0.28	0.29	0.67	0.31
J90A	Deference5	0.06	0.3	0.3	0.38	0.67	0.34
J91A	Deference6	0.04	0.22	0.3	0.33	0.75	0.33
J92A	Deference7	0.02	0.2	0.28	0.31	0.78	0.32

Appendix 9: The Cumulative Frequency Table by Group for Jejueo

The following tables provide information about how many participants obtained particular percentage scores and what portion that number is for each group. This table is useful because it shows how many and what percentage of test takers scored below or above certain scores. This table can be used when teachers have to place test takes into different classes and also to decide cut scores.

1) The Elementary

Percentage Score	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative percentage of participants (%)
0.00	3	3	5.88	5.88
1.15	4	7	7.84	13.73
2.30	3	10	5.88	19.61
3.45	2	12	3.92	23.53
4.60	5	17	9.80	33.33
5.75	2	19	3.92	37.25
6.90	11	30	21.57	58.82
8.05	3	33	5.88	64.71
10.34	1	34	1.96	66.67
11.49	2	36	3.92	70.59
12.64	3	39	5.88	76.47
13.79	1	40	1.96	78.43
14.94	1	41	1.96	80.39
17.24	2	43	3.92	84.31
19.54	1	44	1.96	86.27
20.69	1	45	1.96	88.24
22.99	1	46	1.96	90.20
24.14	1	47	1.96	92.16
25.29	1	48	1.96	94.12
31.03	1	49	1.96	96.08
34.48	1	50	1.96	98.04
43.68	1	51	1.96	100.00

2) The Middle School

Percentage Score	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative percentage of participants (%)
0.00	5	5	10	10
2.30	2	7	4	14
3.45	1	8	2	16
6.90	1	9	2	18
8.05	1	10	2	20
9.20	4	14	8	28
10.34	3	17	6	34
11.49	1	18	2	36
12.64	2	20	4	40
13.79	5	25	10	50

Percentage Score	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative percentage of participants (%)
14.94	1	26	2	52
16.09	3	29	6	58
17.24	1	30	2	60
19.54	1	31	2	62
20.69	1	32	2	64
22.99	1	33	2	66
24.14	2	35	4	70
25.29	1	36	2	72
29.89	1	37	2	74
31.03	2	39	4	78
32.18	3	42	6	84
39.08	1	43	2	86
45.98	2	45	4	90
48.28	2	47	4	94
50.57	1	48	2	96
52.87	1	49	2	98
64.37	1	50	2	100

3) The High School

Percentage Score	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative percentage of participants (%)
0.00	2	2	4	4
1.15	1	3	2	6
5.75	2	5	4	10
14.94	2	7	4	14
17.24	3	10	6	20
21.84	1	11	2	22
24.14	1	12	2	24
26.44	1	13	2	26
27.59	1	14	2	28
31.03	1	15	2	30
32.18	1	16	2	32
36.78	4	20	8	40
37.93	3	23	6	46
39.08	4	27	8	54
40.23	2	29	4	58
41.38	1	30	2	60
42.53	1	31	2	62
44.83	1	32	2	64
45.98	1	33	2	66
47.13	1	34	2	68
48.28	2	36	4	72
50.57	3	39	6	78
51.72	2	41	4	82
54.02	1	42	2	84
55.17	1	43	2	86
56.32	1	44	2	88
57.47	1	45	2	90
58.62	1	46	2	92

Percentage Score	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative percentage of participants (%)
59.77	1	47	2	94
62.07	1	48	2	96
63.22	1	49	2	98
67.82	1	50	2	100

4) The College

Percentage Score	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative percentage of participants (%)
8.05	1	1	2.38	2.38
12.64	1	2	2.38	4.76
13.79	2	4	4.76	9.52
16.09	1	5	2.38	11.90
21.84	1	6	2.38	14.29
24.14	1	7	2.38	16.67
27.59	2	9	4.76	21.43
28.74	2	11	4.76	26.19
31.03	5	16	11.90	38.10
33.33	1	17	2.38	40.48
34.48	3	20	7.14	47.62
35.63	1	21	2.38	50.00
36.78	4	25	9.52	59.52
37.93	1	26	2.38	61.90
41.38	1	27	2.38	64.29
42.53	3	30	7.14	71.43
43.68	1	31	2.38	73.81
44.83	3	34	7.14	80.95
45.98	1	35	2.38	83.33
48.28	1	36	2.38	85.71
52.87	1	37	2.38	88.10
54.02	2	39	4.76	92.86
58.62	1	40	2.38	95.24
62.07	1	41	2.38	97.62
83.91	1	42	2.38	100.00

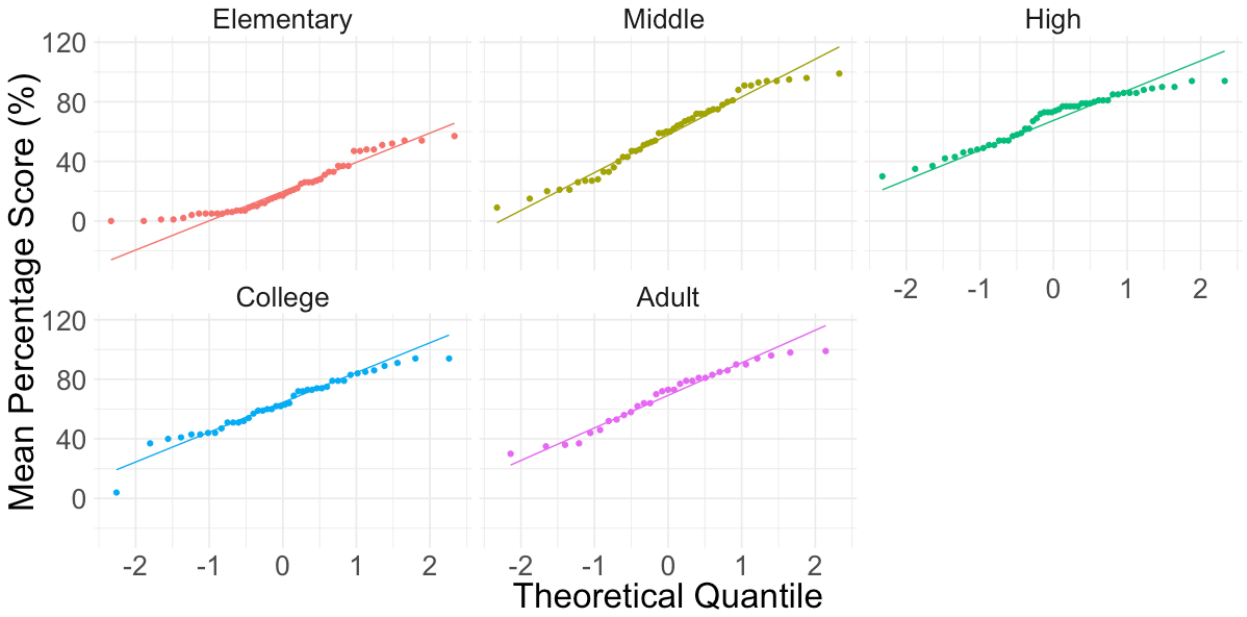
5) The Adult

Percentage Score	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative percentage of participants (%)
8.05	1	1	2.38	2.38
40.23	1	2	1.96	3.92
45.98	1	3	1.96	5.88
48.28	1	4	1.96	7.84
50.57	1	5	1.96	9.80
51.72	3	8	5.88	15.69
52.87	3	11	5.88	21.57
54.02	2	13	3.92	25.49

57.47	1	14	1.96	27.45
59.77	3	17	5.88	33.33
62.07	1	18	1.96	35.29
63.22	2	20	3.92	39.22
64.37	3	23	5.88	45.10
65.52	5	28	9.80	54.90
68.97	1	29	1.96	56.86
70.11	1	30	1.96	58.82
71.26	2	32	3.92	62.75
77.01	1	33	1.96	64.71
79.31	2	35	3.92	68.63
80.46	2	37	3.92	72.55
81.61	1	38	1.96	74.51
82.76	1	39	1.96	76.47
83.91	1	40	1.96	78.43
85.06	1	41	1.96	80.39
86.21	1	42	1.96	82.35
87.36	4	46	7.84	90.20
90.80	1	47	1.96	92.16
93.10	3	50	5.88	98.04
94.25	1	51	1.96	100.00

Appendix 10: The ANOVA assumption tests for English

1) QQ plots



2) Shapiro test

Table 10-1. Shapiro test results for English

	statistic.W	p.value
Elementary	0.9081829	0.0007980648
Middle	0.9640495	0.1313624790
High	0.9382340	0.0114777360
College	0.9572383	0.1175493972
Adult	0.9510580	0.1669558674

3) Levene's Test: Homogeneity of Variance (center = median)

Df	F value	Pr(>F)
4	2.5989	0.03715 *

Appendix 11: Extra Tables and Figures for Chapter 6 Developmental Profile of English

The tables and figures presented in this appendix are intended to serve as a supplement to Chapter 6. The tables provide descriptive statistics such as mean percentage scores, standard deviations, minimum scores, maximum scores, standard errors, and confidence intervals. The figures visually represent distribution of mean percentage scores in individual tasks. Relevant Section numbers, Table numbers, and Figure numbers from Chapter 6 are provided in parentheses.

Table 11-1. Descriptive statistics of the English test for all five groups (also see ***Figure 6.1***)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	21.69	17.28	17.19	0.00	56.79	2.41	16.86	26.52
Middle	50	58.57	60.49	24.70	8.64	98.77	3.49	51.55	65.59
High	50	68.64	73.45	17.14	29.63	93.83	2.42	63.77	73.51
College	42	63.64	62.34	18.80	3.70	93.83	2.90	57.78	69.50
Adult	31	69.10	72.84	20.22	29.63	98.77	3.63	61.68	76.52

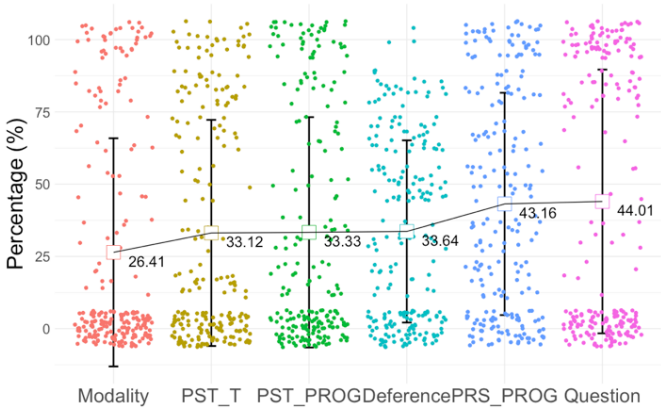
Table 11-2 Descriptive statistics of the vocabulary task by group (also see ***Figure 6.4)***

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	35.04	31	25.85	0	91	3.62	27.77	42.31
Middle	50	73.44	79	21.65	16	100	3.06	67.29	79.59
High	50	84.14	87	12.36	51	100	1.75	80.63	87.65
College	42	79.90	84	16.79	7	100	2.59	74.67	85.13
Adult	31	87.32	93	13.70	47	100	2.46	82.30	92.34

Table 11-3 Descriptive statistics of the verbal pattern production task by group (also see ***Figure 6.5)***

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	5.02	0	9.87	0	39	1.38	2.24	7.80
Middle	50	40.06	36	32.95	0	97	4.66	30.69	49.40
High	50	49.30	50	26.69	0	92	3.77	41.71	56.86
College	42	43.31	36	25.72	0	94	3.97	35.29	51.32
Adult	31	46.26	44	31.47	0	97	5.65	34.72	57.88

Figure 11-1 Distribution of percentage scores on individual verbal pattern tasks (also see ***Table 6.11*** through ***Table 6.16***)



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 11-5 Descriptive statistics for all verbal pattern tasks (also see ***Figure 6.5***)

	Elementary	Middle	High	College	Adult
PST_CONT	5.88	9.66	33.3	19.05	46.1
Deference	1.65	21.49	34.03	37.88	75.15
Prospective	25.82	25.02	48.98	41.6	62.73
Question	16.35	28.64	74.62	58.76	70.61
PRS_CONT	16.31	36.32	68.96	75.74	90.82
Perfective	18.96	39.66	61.32	79.71	95.39

Figure 11-2. Mean percent scores of individual conditions by group (also see ***Figure 6.5***)

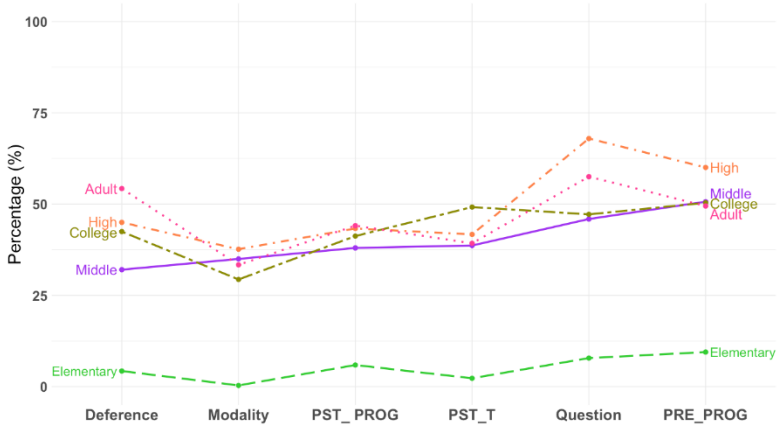


Table 11-6 Overall mean percentage scores on individual tasks by group (also see ***Figure 6.5***)

	Deference	Modality	PST_ PROG	PST_T	Question	PRE_PROG
Elementary	4.27	0.33	5.92	2.29	7.82	9.47
Middle	32.04	34.98	38.00	38.66	45.92	50.66
High	45.00	37.64	43.32	41.70	67.96	60.04
College	42.48	29.36	41.24	49.19	47.19	50.36
Adult	54.26	33.35	44.10	39.26	57.52	49.48

Table 11-7 Pairwise comparisons between mean percentage scores on individual tasks in the High school group (also see 6.3.4)

	Deference	Modality	PST_ PROG	PST_T	Question
Modality	0.30	*NA*	*NA*	*NA*	*NA*
PST_PROG	0.73	0.45	*NA*	*NA*	*NA*
PST_T	0.65	0.63	0.78	*NA*	*NA*
Question	0.00	0.01	0.01	0.01	*NA*
PRE_PROG	0.05	0.01	0.04	0.03	0.33

Figure 11-3. Mean percent scores on TAM by group (also see 6.3.4)

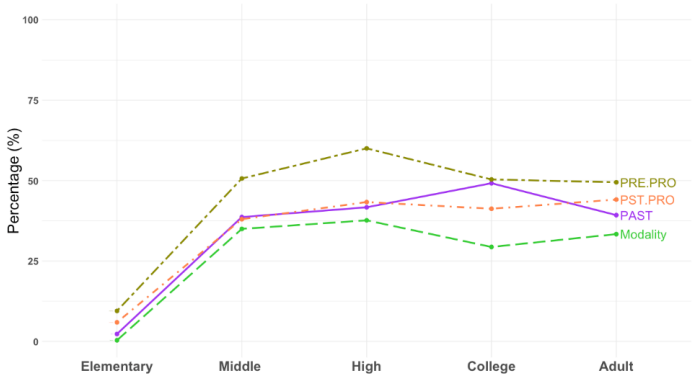


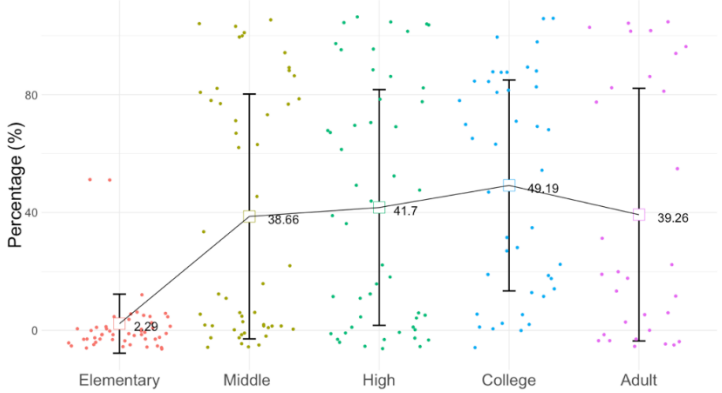
Table 11-8 Descriptive statistics for the TAM task results (see also 6.3.4)

	Elementary	Middle	High	College	Adult
Modality	0.33	34.98	37.64	29.36	33.35
PAST	2.29	38.66	41.7	49.19	39.26
PST.PRO	5.92	38	43.32	41.24	44.1
PRE.PRO	9.47	50.66	60.04	50.36	49.48

Table 11-9 Descriptive statistics for the TAM task results by group (see also 6.3.4)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	204	4.50	0.0	15.08	0	100	1.06	2.42	7.15
Middle	200	40.58	17.0	42.60	0	100	3.01	34.64	50.85
High	200	45.67	41.5	40.47	0	100	2.86	40.03	53.80
College	168	42.54	33.0	36.95	0	100	2.85	36.91	50.98
Adult	124	41.55	33.0	41.37	0	100	3.72	34.20	53.63

Figure 11-4 Distribution of percentage scores on the Past Tense task (also see Section 6.3.2)

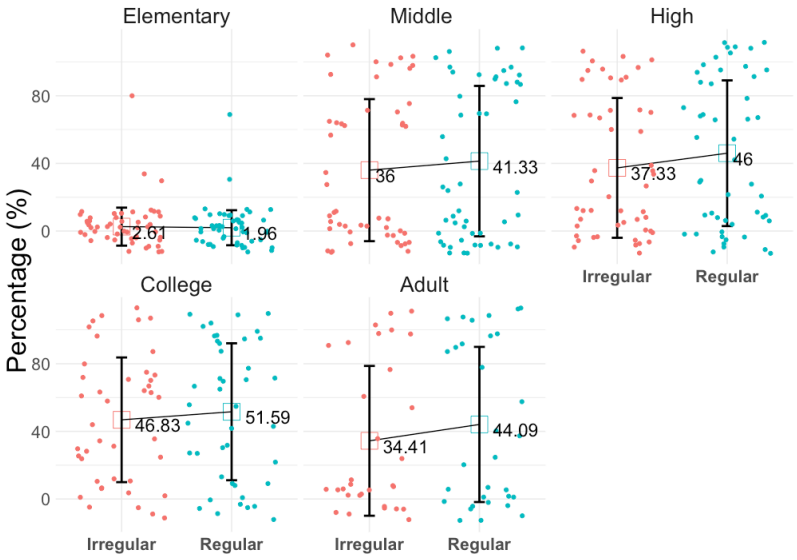


Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 11-10. Descriptive statistics for the Past Tense production task (also see Section 6.3.2)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	2.29	0.0	10.02	0	50	1.40	-0.53	5.11
Middle	50	38.66	17.0	41.52	0	100	5.87	26.86	50.46
High	50	41.70	33.0	39.99	0	100	5.65	30.34	53.06
College	42	49.19	58.5	35.77	0	100	5.52	38.04	60.34
Adult	31	39.26	17.0	42.86	0	100	7.70	23.54	54.98

Figure 11-5 Distribution of percentage scores on the Past Tense task: Regular vs. Irregular verbs (also see Section 6.3.2)

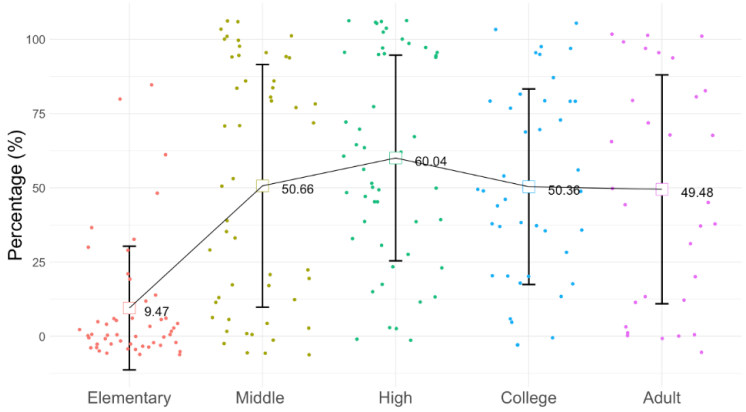


Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 11-11. Descriptive statistics for the performance on the Past Tense task: Regular vs. Irregular verbs (see also Section 6.3.2)

	N	Verb	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	Irregular	2.61	0.00	11.24	0	66.67	1.57	-0.55	5.77
Elementary	51	Regular	1.96	0.00	10.35	0	66.67	1.45	-0.95	4.87
Middle	50	Irregular	36.00	0.00	41.97	0	100.00	5.94	24.07	47.93
Middle	50	Regular	41.33	33.33	44.45	0	100.00	6.29	28.70	53.96
High	50	Irregular	37.33	33.33	41.32	0	100.00	5.84	25.59	49.07
High	50	Regular	46.00	33.33	43.06	0	100.00	6.09	33.76	58.24
College	42	Irregular	46.83	50.00	36.85	0	100.00	5.69	35.35	58.31
College	42	Regular	51.59	66.67	40.46	0	100.00	6.24	38.98	64.20
Adult	31	Irregular	34.41	0.00	44.29	0	100.00	7.96	18.16	50.66
Adult	31	Regular	44.09	33.33	45.86	0	100.00	8.24	27.27	60.91

Figure 11-6 Distribution of percentage scores on the Present Continuative task by group (also see Section 6.3.2)

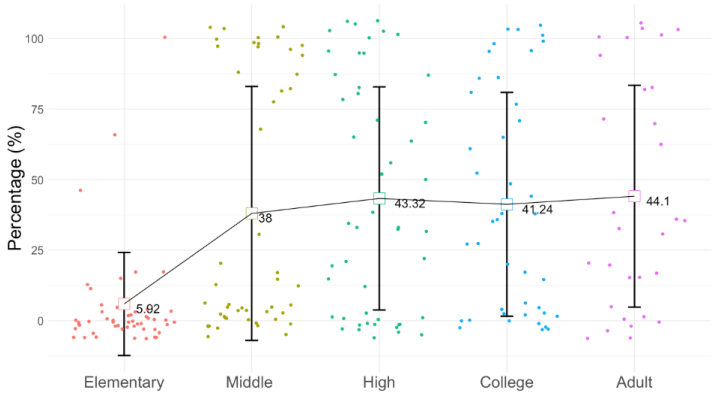


Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 11-12. Descriptive statistics for the Present Progressive task (also see Section 6.3.2)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	9.47	0.0	20.83	0	83	2.92	3.61	15.33
Middle	50	50.66	50.0	40.89	0	100	5.78	39.04	62.28
High	50	60.04	58.5	34.65	0	100	4.90	50.19	69.89
College	42	50.36	50.0	32.96	0	100	5.09	40.09	60.63
Adult	31	49.48	50.0	38.57	0	100	6.93	35.33	63.63

Figure 11-7 Distribution of percentage scores on the Present Continuative task by group (also see Section 6.3.2)

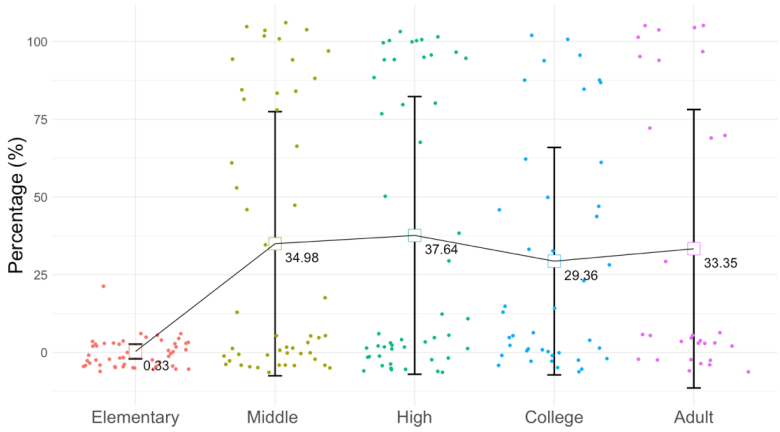


Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 11-13. Descriptive statistics for the past progressive production task (also see Section 6.3.2)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	5.92	0.0	18.25	0	100	2.55	0.79	11.05
Middle	50	38.00	8.5	45.01	0	100	6.37	25.21	50.79
High	50	43.32	33.0	39.52	0	100	5.59	32.09	54.55
College	42	41.24	33.0	39.66	0	100	6.12	28.88	53.60
Adult	31	44.10	33.0	39.31	0	100	7.06	29.68	58.52

Figure 11-8 Distribution of percentage scores on the Prospective task (also see Section 6.3.2)

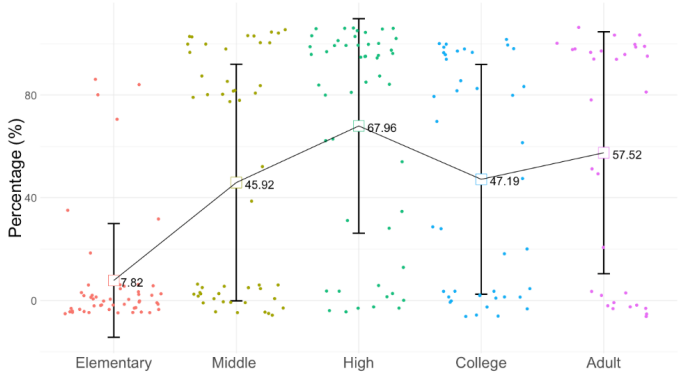


Note.The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 11-14. Descriptive statistics for the Prospective task (also see Section 6.3.2)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	0.33	0.0	2.38	0	17	0.33	-0.34	1.00
Middle	50	34.98	0.0	42.45	0	100	6.00	22.92	47.04
High	50	37.64	0.0	44.62	0	100	6.31	24.96	50.32
College	42	29.36	8.5	36.55	0	100	5.64	17.97	40.75
Adult	31	33.35	0.0	44.75	0	100	8.04	16.94	49.76

Figure 11-9 Distribution of percentage scores on the Yes/No Question formation task (also see Section 6.3.2)

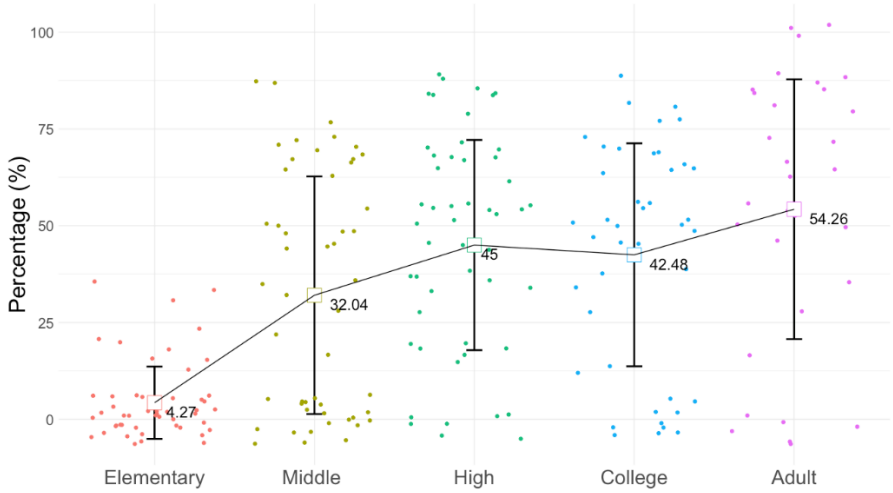


Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 11-15 Descriptive statistics for the Yes/No Question formation task (also see Section 6.3.2)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	7.82	0.0	22.14	0	83	3.10	1.59	14.05
Middle	50	45.92	41.5	46.06	0	100	6.51	32.83	59.01
High	50	67.96	100.0	41.76	0	100	5.91	56.09	79.83
College	42	47.19	41.5	44.73	0	100	6.90	33.25	61.13
Adult	31	57.52	83.0	47.09	0	100	8.46	40.25	74.79

Figure 11-10 Distribution of percentage scores on the Deference task (also see Section 6.3.2)



Note. The error bars (also known as whiskers) depict standard deviations. The dots indicate the percentage scores for each individual in each group, while the numbers and squares indicate group mean percentage scores.

Table 11-16. Descriptive statistics for the Deference task (also see Section 6.3.2)

	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Elementary	51	4.27	0	9.34	0	33	1.31	1.64	6.90
Middle	50	32.04	33	30.69	0	83	4.34	23.32	40.76
High	50	45.00	50	27.15	0	83	3.84	37.28	52.72
College	42	42.48	50	28.80	0	83	4.44	33.51	51.45
Adult	31	54.26	67	33.55	0	100	6.03	41.95	66.57

Appendix 12: Proportion Correct for Individual Jejueo Vocabulary Items (n=45)

The following table provides information about the proportion of correct responses for each vocabulary test item; a score of 1 would indicate that every participant responded correctly.

Item	*Word*	*Domain*	Elementary	Middle	High	College	Adult	Total
E01A	grandfather	kinship	0.39	0.86	1	0.95	1	0.84
E02A	grandmother	kinship	0.39	0.9	1	0.88	1	0.83
E03A	father	kinship	0.67	0.92	1	0.98	1	0.91
E04A	mother	kinship	0.82	0.98	1	0.98	1	0.96
E05A	older brother	kinship	0.39	0.92	1	0.98	1	0.86
E06A	sister	kinship	0.45	0.92	1	0.98	0.9	0.85
E07A	tree	nature	0.71	0.94	1	0.98	1	0.93
E08A	flower	nature	0.47	0.92	0.98	0.98	0.97	0.86
E09A	rainbow	nature	0.31	0.86	0.98	0.9	0.97	0.8
E10A	sea	nature	0.76	0.88	0.92	0.9	0.97	0.89
E11A	grass	nature	0.2	0.8	0.9	0.67	0.84	0.68
E12A	sand	nature	0.37	0.86	0.96	0.81	0.94	0.79
E19A	black	Adjectives	0.47	0.94	1	0.98	0.94	0.87
E20A	white	Adjectives	0.39	0.76	0.98	0.98	0.97	0.82
E21A	short	Adjectives	0.41	0.76	1	0.98	0.9	0.81
E22A	long	Adjectives	0.53	0.86	0.98	0.95	0.97	0.86
E24A	small	Adjectives	0.55	0.9	1	1	1	0.89
E31A	octopus	Food	0.24	0.56	0.8	0.67	0.87	0.63
E32A	shell	Food	0.02	0.5	0.34	0.38	0.65	0.38
E33A	crab	Food	0.18	0.58	0.54	0.79	0.77	0.57
E34A	onion	Food	0.31	0.72	0.82	0.9	0.9	0.73
E35A	egg	Food	0.59	0.94	0.98	0.98	1	0.9
E36A	potato	Food	0.41	0.74	0.92	0.86	0.94	0.77
E43A	cat	Animal	0.76	0.96	1	0.98	0.97	0.93
E44A	mouse	Animal	0.49	0.9	0.88	0.93	0.97	0.83
E45A	pig	Animal	0.71	0.94	1	1	0.94	0.92
E46A	grasshopper	Animal	0.04	0.34	0.26	0.19	0.48	0.26
E47A	frog	Animal	0.43	0.86	0.92	0.79	0.94	0.79
E48A	ant	Animal	0.61	0.94	1	0.98	0.97	0.9
E55A	shoulder	Body Part	0.08	0.5	0.86	0.69	0.9	0.61
E56A	tongue	Body Part	0.04	0.32	0.74	0.43	0.74	0.45
E57A	knee	Body Part	0.12	0.52	0.64	0.69	0.77	0.55
E58A	bone	Body Part	0.08	0.54	0.76	0.79	0.77	0.59
E59A	neck	Body Part	0.18	0.66	0.94	0.79	0.94	0.7

E60A	face	Body Part	0.41	0.88	0.92	0.9	0.97	0.82
E67A	throw/toss	Action Verb	0.12	0.74	0.88	0.67	0.84	0.65
E69A	cut	Action Verb	0.27	0.8	0.84	0.81	0.77	0.7
E70A	hold	Action Verb	0.04	0.28	0.58	0.48	0.58	0.39
E71A	see	Action Verb	0.35	0.84	0.9	0.98	0.9	0.79
E74A	drop	Action Verb	0.16	0.52	0.6	0.48	0.58	0.47
E81A	scissors	Household Goods	0.16	0.66	0.7	0.67	0.84	0.61
E82A	needle	Household Goods	0.04	0.28	0.44	0.55	0.71	0.4
E83A	broom	Household Goods	0.02	0.28	0.38	0.21	0.55	0.29
E84A	*basket*	Household Goods	0.12	0.38	0.54	0.57	0.71	0.46
E85A	key	Household Goods	0.51	0.86	0.98	0.98	0.97	0.86

Appendix 13: Proportion Correct for Individual English Verbal Patterns

The following table provides information about the proportion of correct responses for each verbal pattern; a score of 1 would indicate that every participant responded correctly.

Item	Condition	Elementary	Middle	High	College	Adults	Total
E13A	PRS Continuative	0.16	0.46	0.52	0.55	0.45	0.43
E14A	PRS Continuative	0.16	0.64	0.82	0.71	0.65	0.6
E15A	PRS Continuative	0.04	0.42	0.52	0.43	0.39	0.36
E16A	PRS Continuative	0.02	0.44	0.4	0.19	0.32	0.27
E17A	PRS Continuative	0.14	0.62	0.8	0.71	0.65	0.58
E18A	PRS Continuative	0.06	0.46	0.54	0.43	0.52	0.4
E25A	Perfective	0	0.4	0.36	0.33	0.42	0.3
E26A	Perfective	0.04	0.42	0.4	0.43	0.29	0.32
E27A	Perfective	0.02	0.38	0.46	0.52	0.48	0.37
E28A	Perfective	0	0.36	0.38	0.43	0.39	0.31
E29A	Perfective	0.04	0.46	0.56	0.69	0.42	0.43
E30A	Perfective	0.04	0.3	0.34	0.55	0.35	0.32
E37A	Prospective	0	0.34	0.36	0.33	0.35	0.28
E38A	Prospective	0	0.38	0.4	0.33	0.39	0.3
E39A	Prospective	0	0.38	0.38	0.31	0.29	0.27
E40A	Prospective	0.02	0.44	0.42	0.36	0.32	0.31
E41A	Prospective	0	0.28	0.36	0.19	0.35	0.24
E42A	Prospective	0	0.28	0.34	0.24	0.29	0.23
E49A	PST Continuative	0.08	0.4	0.34	0.5	0.58	0.38
E50A	PST Continuative	0.08	0.38	0.48	0.48	0.42	0.37
E51A	PST Continuative	0.02	0.3	0.38	0.33	0.35	0.28
E52A	PST Continuative	0.04	0.4	0.4	0.29	0.39	0.3
E53A	PST Continuative	0.04	0.38	0.54	0.4	0.39	0.35
E54A	PST Continuative	0.1	0.42	0.46	0.48	0.52	0.4
E61A	Question	0.06	0.48	0.76	0.5	0.61	0.48
E62A	Question	0.02	0.42	0.74	0.52	0.61	0.46
E63A	Question	0.08	0.48	0.72	0.55	0.61	0.49
E64A	Question	0.08	0.46	0.64	0.43	0.52	0.43
E65A	Question	0.12	0.4	0.6	0.33	0.52	0.39
E66A	Question	0.12	0.52	0.62	0.5	0.58	0.47
E75A	Deference	0.1	0.54	0.76	0.71	0.65	0.55
E76A	Deference	0.1	0.5	0.72	0.62	0.71	0.53
E77A	Deference	0.06	0.42	0.6	0.48	0.68	0.45
E78A	Deference	0	0.08	0.26	0.26	0.52	0.22
E79A	Deference	0	0.36	0.34	0.45	0.61	0.35

E80A	Deference	0	0.02	0.02	0.02	0.1	0.03

Appendix 14: English Cumulative Frequency

The following tables provide information about how many participants obtained particular percentage scores and what portion that number is for each group. This table is useful because it shows how many and what percentage of test takers scored below or above certain scores. This table can be used when teachers have to place test takes into different classes and also to decide cut scores. This table can be used when teachers have to place test takers into different classes and also to decide cut scores.

1) The Elementary

Percentage Score (%)	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative Percentage of participants (%)
0.00	2	2	3.92	3.92
1.23	2	4	3.92	7.84
2.47	1	5	1.96	9.80
3.70	1	6	1.96	11.76
4.94	5	11	9.80	21.57
6.17	2	13	3.92	25.49
7.41	3	16	5.88	31.37
8.64	1	17	1.96	33.33
9.88	2	19	3.92	37.25
12.35	2	21	3.92	41.18
13.58	1	22	1.96	43.14
14.81	1	23	1.96	45.10
16.05	1	24	1.96	47.06
17.28	2	26	3.92	50.98
18.52	1	27	1.96	52.94
19.75	1	28	1.96	54.90
20.99	1	29	1.96	56.86
22.22	1	30	1.96	58.82
24.69	1	31	1.96	60.78
25.93	3	34	5.88	66.67
27.16	1	35	1.96	68.63
28.40	1	36	1.96	70.59
30.86	1	37	1.96	72.55
33.33	2	39	3.92	76.47
37.04	3	42	5.88	82.35
46.91	2	44	3.92	86.27
48.15	2	46	3.92	90.20
50.62	1	47	1.96	92.16
51.85	1	48	1.96	94.12
54.32	2	50	3.92	98.04
56.79	1	51	1.96	100.00

2) The Middle School

Percentage Score (%)	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative Percentage of participants (%)
8.64	1	1	2	2
14.81	1	2	2	4
19.75	1	3	2	6
20.99	2	5	4	10
25.93	1	6	2	12
27.16	2	8	4	16
28.40	1	9	2	18
33.33	2	11	4	22
35.80	1	12	2	24
39.51	1	13	2	26
43.21	2	15	4	30
46.91	2	17	4	34
48.15	1	18	2	36
50.62	1	19	2	38
51.85	1	20	2	40
53.09	1	21	2	42
54.32	1	22	2	44
59.26	2	24	4	48
60.49	2	26	4	52
61.73	1	27	2	54
64.20	1	28	2	56
65.43	1	29	2	58
66.67	1	30	2	60
67.90	1	31	2	62
69.14	1	32	2	64
71.60	3	35	6	70
74.07	1	36	2	72
75.31	2	38	4	76
77.78	1	39	2	78
80.25	1	40	2	80
81.48	1	41	2	82
87.65	1	42	2	84
91.36	2	44	4	88
92.59	1	45	2	90
93.83	2	47	4	94
95.06	1	48	2	96
96.30	1	49	2	98
98.77	1	50	2	100

3) The High School

Percentage Score (%)	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative Percentage of participants (%)
29.63	1	1	2	2
34.57	1	2	2	4
37.04	1	3	2	6
41.98	1	4	2	8
43.21	1	5	2	10

Percentage Score (%)	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative Percentage of participants (%)
45.68	1	6	2	12
46.91	1	7	2	14
48.15	1	8	2	16
49.38	1	9	2	18
50.62	2	11	4	22
54.32	3	14	6	28
56.79	1	15	2	30
58.02	1	16	2	32
59.26	1	17	2	34
61.73	2	19	4	38
66.67	1	20	2	40
69.14	1	21	2	42
71.60	1	22	2	44
72.84	3	25	6	50
74.07	1	26	2	52
75.31	1	27	2	54
76.54	5	32	10	64
79.01	3	35	6	70
80.25	1	36	2	72
81.48	3	39	6	78
85.19	2	41	4	82
86.42	3	44	6	88
87.65	1	45	2	90
88.89	1	46	2	92
90.12	2	48	4	96
93.83	2	50	4	100

4) The College

Percentage Score (%)	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative Percentage of participants (%)
3.70	1	1	2.38	2.38
37.04	1	2	2.38	4.76
39.51	1	3	2.38	7.14
40.74	1	4	2.38	9.52
43.21	2	6	4.76	14.29
44.44	2	8	4.76	19.05
46.91	1	9	2.38	21.43
50.62	3	12	7.14	28.57
51.85	1	13	2.38	30.95
54.32	1	14	2.38	33.33
56.79	1	15	2.38	35.71
59.26	2	17	4.76	40.48
60.49	2	19	4.76	45.24
61.73	2	21	4.76	50.00
62.96	1	22	2.38	52.38
64.20	1	23	2.38	54.76
69.14	1	24	2.38	57.14
71.60	2	26	4.76	61.90
72.84	2	28	4.76	66.67

Percentage Score (%)	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative Percentage of participants (%)
74.07	2	30	4.76	71.43
75.31	1	31	2.38	73.81
79.01	3	34	7.14	80.95
82.72	1	35	2.38	83.33
83.95	1	36	2.38	85.71
85.19	1	37	2.38	88.10
86.42	1	38	2.38	90.48
88.89	1	39	2.38	92.86
91.36	1	40	2.38	95.24
93.83	2	42	4.76	100.00

5) The Adult

Percentage Score (%)	Frequency	Cumulative Frequency	Percentage of participants (%)	Cumulative Percentage of participants (%)
29.63	1	1	3.23	3.23
34.57	1	2	3.23	6.45
35.80	1	3	3.23	9.68
37.04	1	4	3.23	12.90
44.44	1	5	3.23	16.13
45.68	1	6	3.23	19.35
51.85	1	7	3.23	22.58
53.09	1	8	3.23	25.81
55.56	1	9	3.23	29.03
58.02	1	10	3.23	32.26
61.73	1	11	3.23	35.48
64.20	2	13	6.45	41.94
70.37	1	14	3.23	45.16
71.60	1	15	3.23	48.39
72.84	2	17	6.45	54.84
76.54	1	18	3.23	58.06
79.01	2	20	6.45	64.52
81.48	2	22	6.45	70.97
82.72	1	23	3.23	74.19
85.19	1	24	3.23	77.42
86.42	1	25	3.23	80.65
90.12	2	27	6.45	87.10
93.83	1	28	3.23	90.32
96.30	1	29	3.23	93.55
97.53	1	30	3.23	96.77
98.77	1	31	3.23	100.00

Appendix 15: Additional Tables and Figures for Chapter 7 Knowledge of Language

The tables and figures presented in this appendix are intended to serve as a supplement to Chapter 7. The tables provide descriptive statistics such as mean percentage scores, standard deviations, minimum scores, maximum scores, standard errors, and confidence intervals.

Table 15-1 Mother's language practice and participants' performance on the Jejueo test (also see ***Table 7.3***)

Mother's language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejueo	88	49.57	51	23.91	0	92	2.55	44.50	54.64
Korean	154	22.92	17	19.07	0	89	1.54	19.88	25.33

Table 15-2 Father's language practice and participants' performance on the Jejueo test (also see ***Table 7.4***)

Father's language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejueo	91	46.95	48	24.40	0	92	2.56	41.87	52.03
Korean	148	23.70	17	20.04	0	89	1.65	20.45	26.95

Table 15-3 Siblings' language practice and participants' performance on the Jejueo test (also see ***Table 7.5***)

Sibling's language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejueo	63	63.87	64.20	20.70	3.7	96.30	2.96	57.93	69.81
Korean	170	52.56	54.32	28.07	0.0	98.77	2.19	48.23	56.89

Table 15-4 Maternal grandmother's language practice and participants' performance on the Jejueo test (also see ***Table 7.6***)

Maternal grandmother's language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejueo	178	60.77	63.58	24.26	0.00	97.53	2.06	56.69	64.85
Korean	48	48.56	46.91	27.61	0.00	98.77	3.99	40.54	56.58

Table 15-5 Maternal grandfather's language practice and participants' performance on the Jejueo test (also see ***Table 7.7)***

Maternal grandfather's language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejueo	156	41.12	41	25.03	0	92	0.84	39.46	42.78
Korean	49	22.82	15	19.76	0	92	0.75	21.35	24.29

Table 15-6 Mother's language practice and participants' performance on the English test (also see ***Table 1.1***)

Mother's language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejueo	70	62.33	63.58	23.067	3.7	98.77	2.757	56.829	67.83
Korean	152	51.80	52.47	27.860	0.0	98.77	2.259	47.335	56.26

Table 15-7 Father's language practice and participants' performance on the English test (also see ***Table 7.4)***

Father's language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejeuo	74	61.44	63.58	23.08	3.7	96.30	2.68	56.09	66.79
Korean	145	51.40	51.85	27.94	0.0	98.77	2.32	46.81	55.99

Table 15-8 Siblings' language practice and participants' performance on the English test (also see ***Table 7.5)***

Siblings' language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejueo	49	63.87	64.20	20.70	3.7	96.30	2.96	57.93	69.81
Korean	164	52.56	54.32	28.07	0.0	98.77	2.19	48.23	56.89

Table 15-9 Maternal grandmother's language practice and participants' performance on the English test (also see ***Table 7.6***)

Maternal grandmother's language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejeuo	159	58.57	60.49	25.22	0	98.77	2.00	54.62	62.52
Korean	47	47.99	46.91	29.56	0	98.77	4.31	39.31	56.67

Table 15-10 Maternal grandfather's practice and participants' performance on the English test (also see ***Table 7.7***)

Maternal grandfather's language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejueo	138	60.77	63.58	24.26	0	97.53	2.06	56.69	64.85
Korean	48	48.56	46.91	27.61	0	98.77	3.99	40.54	56.58

Table 15-11 Participants' language practice and performance on the Jejueo test (also see ***Table 7.8***)

Participant's Language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejueo	71	48.20	49	23.03	0	91	1.95	44.34	44.34
Korean	164	26.68	23	22.15	0	92	1.21	24.29	24.29

Table 15-12 Participants' language practice and performance on the English test (also see ***Table 7.8***)

Participant's Language	N	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
Jejeuo	59	61.26	61.73	24.08	0.00	98.77	2.29	56.73	56.73
Korean	157	53.81	54.32	27.43	0.00	98.77	1.53	50.80	50.80

Table 15-13 Participants' English Tutoring and performance on the English test (also see ***Table 7.13***)

E_tutoring	n	Mean	Median	SD	Min	Max	SE	Lower.CI	Upper.CI
No	102	52.29	54.32	26.86	0	97.53	2.66	47.01	47.01
Yes	121	56.70	60.49	26.86	0	98.77	2.44	51.86	51.86